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Guidance for the Reregistration of Pesticide Products Containing Allethrin Stereoisomers as the Active Ingredient

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Pesticides

Guidance for the Reregistration of Pesticide Products Containing ALLETHRIN STEREOISOMERS as the Active Ingredient

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GUIDANCE FOR THE REREGISTRATION OF PESTICIDE PRODUCTS CONTAINING THE ALLETHRIN STEREOISOMERS

Allethrin (allyl homolog of cinerin I)
CAS Registry No. 584-79-2
OPP (Shaughnessy) No. 004001 and 004002

D-trans allethrin
CAS Registry No. 28057-48-9
OPP (Shaughnessy) No. 004003

S-bioallethrin
CAS Registry No. 28434-00-6
OPP (Shaughnessy) No. 004004

D-cis/trans allethrin
CAS Registry No. 42534-61-2
OPP (Shaughnessy) No. 004005

March 24, 1988

CASE NO. 410

ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDE PROGRAMS
WASHINGTON, DC 20460

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I. INTRODUCTION

EPA has established the Registration Standards program in order to provide an orderly mechanism by which pesticide products containing the same active ingredient can be reviewed and standards set for compliance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The standards are applicable to reregistration and future applications for registration of products containing the same active ingredient. Each registrant of a product containing an active ingredient subject to this Standard who wishes to continue to sell or distribute that product must bring his product and labeling into compliance with FIFRA, as instructed by this Standard.

The Registration Standards program involves a thorough review of the scientific data base underlying a pesticide's registration. The purpose of the Agency's review is to reassess the potential hazards arising from the currently registered uses of the pesticide; to determine the need for additional data on health and environmental effects; and to determine whether the pesticide meets the "no unreasonable adverse effects" criteria of FIFRA. In its review EPA identifies:

1. Studies that are acceptable to support the data requirements for the currently registered uses of the pesticide.

2. Additional studies necessary to support continued registration. The additional studies may not have been required when the product was initially registered or may be needed to replace studies that are now considered inadequate.

3. Labeling revisions needed to ensure that the product is not misbranded and that the labeling is adequate to protect man and the environment.

The detailed scientific review, which is not contained in this document, but is available upon request1/, focuses on the pesticide active ingredient. The scientific review primarily discusses the Agency's evaluation of and conclusions from available data in its files pertaining to the pesticide active ingredient. However, during the review of these data, the Agency is also looking for potential hazards that may be associated with the end-use products (EPs) that contain the active ingredient. The Agency will apply the provisions of this Registration Standard to EPs if necessary to protect man and the environment.

1/ The scientific reviews may be obtained from the Information Services Section, Program Management and Support Division (TS-767C), EPA, 401 M St., SW., Washington, DC 20460.

EPA's reassessment results in the development of a regulatory position, contained in this Registration Standard, on the pesticide and each of its registered uses. See Section IV - Regulatory Position and Rationale. Based on its regulatory position, the Agency may prescribe a variety of steps to be taken by registrants to maintain their registrations in compliance with FIFRA. These steps may include:

1. Submission of data in support of product registration;

2. Modification of product labels;

3. Modifications to the manufacturing process of the pesticide to reduce the levels of impurities or contaminants;

4. Restriction of the use of the pesticide to certified applicators or other specially trained individuals;

5. Modification of uses or formulation types; or

6. Specification of packaging limitations.

Failure to comply with these requirements may result in the issuance of a Notice of Intent to Cancel or a Notice of Intent to Suspend (in the case of failure to submit data).

In addition, in cases in which hazards to man or the environment are identified, the Agency may initiate a special review of the pesticide in accordance with 40 CFR Part 154 to examine in depth the risks and benefits of use of the pesticide. If the Agency determines that the risks of the pesticide's use outweigh the benefits of use, the Agency may propose additional regulatory actions, such as cancellation of uses of the pesticide which have been determined to cause unreasonable adverse effects on the environment.

EPA has authority under the Data Call-In (DCI) Notice provisions of FIFRA section 3(c)(2)(B) to require that registrants submit data to answer our questions regarding the chemical, toxicological, and environmental characteristics and fate of a pesticide. This Registration Standard lists the data EPA believes are necessary to resolve our concerns about this pesticide. These data are listed in the Tables A, B, and C in Appendix I. Failure to comply with the DCI Notice requirements enumerated in this Registration Standard may result in issuance by EPA of a Notice of Intent to Suspend the affected product registration.

Registrant are reminded that FIFIRA sec. 6(a)(2) requires them to submit factual information concerning possible unreasonable adverse effects of a pesticide at any time that they become aware of such information. Registrants must notify the Agency of any information, including interim or preliminary results of studies, if that information suggests possible adverse effects on man or the environment. This requirement is independent of the specific time requirements imposed by EPA for submission of completed studies called in by the Agency and continues as long as the products are registered under FIFRA.

II. CHEMICAL(S) COVERED BY THIS STANDARD

A. Description of the Chemical

The following isomers and mixtures in the Allethrin series are covered by this Registration Standard:

1. Common Name: Allethrin; pynamin; allyl homolog of cinerin I.

   Chemical Name: Cyclopropane carboxylic acid 2,2-dimethyl-3-(2-methyl-1-propenyl)-2-methyl-4-oxo-3-(2-propenyl)-2-cyclo-penten-1-yl ester (mixture of cis and trans isomers).

   CAS Registry No.: 584-79-2

   OPP (Shaughnessy) Nos.: 004001 and 004002

   Empirical Formula: $C_{19}H_{26}O_3$

   Trade Name: Pynamin

2. Common Name: Bioallethrin; d-trans allethrin

   Chemical Name: d-trans-chrysanthemum monocarboxylic ester of dl-2-allyl-4-hydroxy-3-methyl-2-cyclo-penten-1-one

   CAS Registry No.: 28057-48-9

   OPP (Shaughnessy) No.: 004003

   Empirical Formula: $C_{12}H_{26}O_3$

   Trade Name: Bioallethrin

3. Common Names: S-bioallethrin

   Chemical Name: d-trans-chrysanthemum monocarboxylic acid ester of dl-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one

   CAS Registry No.: 28434-00-6

   OPP (Shaughnessy) No.: 004004

   Empirical Formula: $C_{12}H_{26}O_3$

   Trade Names: Esbiol

4. Common Names: d-cis/trans allethrin; Pynamin-forte

Chemical Name: dl-3-allyl-2-methyl-4-oxo-2-cyclopentenyl d-cis/trans chrysanthemate

CAS Registry No.: 42534-61-2

OPP (Shaughnessy) No: 004005

Empirical Formula: $C_{12}H_{26}O_3$

Trade Names: d-cis/trans allethrin, Pynamin-forte

5. Common Names: d/l-allethrolone d-trans chrysanthemate; Esbiothrin

Chemical Name: (+)-2-allyl-4-hydroxy-3-methyl-2-cyclopentene-1-one trans-(+)-2,2-di-methyl-3-(2-methylpropenyl) cyclopaneacarboxylate: (+)-2-allyl-4-hydroxy-3-methyl-2-cyclopentene-1-one trans-(-)-2,2 dimethyl-3-(2-methylpropenyl) cyclopropanecarboxylatp (80:20)

CAS Registry No.: None assigned

OPP (Shaughnessy) Nos.: 004004 and 004003[2]

Empirical Formula: $C_{12}H_{26}O_3$

Trade Name: Esbiothrin

General Description of Physical Characteristics

The synthetic pyrethroid family generically called allethrin has five distinct OPP (Shaughnessy) Nos. 004001-004005. Excluding the allethrin coil (004002), each has the same molecular composition with different molecular geometry. These compounds in the allethrin family are known as stereoisomers which are actually mixtures of eight basic components (isomers). The eight individual components (isomers) that make up each of the allethrin stereoisomers are: d-trans chrysanthemic acid of d-allethrolone (d-trans of d); d-trans chrysanthemic acid of l-allethrolone; l-trans chrysanthemic acid of d-allethrolone; l-trans of chrysanthemic acid of l-allethrolone; d-cis chrysanthemic acid of d-allethrolone;

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[2] This compound is a technical product which is a mixture of S-bioallethrin (004004) and Bioallethrin (004003); 60% S-bioallethrin and 40% Bioallethrin.

d-cis chrysanthemic acid of l-allethrolone; l-cis chrysanthemic acid of d-allethrolone; and l-cis chrysanthemic acid of l-allethrolone. Refer to Chart I for further information.

The d-trans of d component (isomer) exhibits the most insecticidal activity. The remaining seven components have little insecticidal activity. When the d-trans of d component is a small proportion of the total allethrin content, efficacy is relatively low. If the d-trans of d portion increases by a given percentage the efficacy of the compound increases by more than that percentage.

The original member of this synthetic pyrethroid family is racemic allethrin (004001). The d-trans of d portion of racemic allethrin is 18% of the total allethrin content. Bioallethrin (004003), which is commonly known as d-trans allethrin has a d-trans of d content of 46.5%. S-bioallethrin (004004) is the most potent form of the chemical with a d-trans of d content of 90%. The final form is d-cis/trans allethrin (004005) which has a d-trans of d content of 36.8%. D-cis/trans allethrin is commonly known as d-allethrin or by the tradename Pynamin-forte™. See Chart I.

For the purpose of this Registration Standard, racemic allethrin (004001) and allethrin coils (004002) are designated under the general heading as Allethrin. The allethrin coils contain the same chemically active ingredient, d-trans of d, as racemic allethrin. The only difference between these compounds is their physical state. The allethrin coil is a solid (the active ingredient is impregnated on a solid substrate) while racemic allethrin is a liquid.

The product Esbiothrin™ is being treated as an individual stereoisomer in the allethrin series in this Registration Standard. Esbiothrin™ is a technical grade product which consists of 60% S-bioallethrin and 40% Bioallethrin. Esbiothrin has a d trans of d content of 72%.

The physical characteristics of the isomers in the allethrin series are similar. They range from a clear yellow to amber colored viscous liquid with a slight aromatic odor. All of the isomers are insoluble in water and are miscible with acetone, benzene, ethanol, hexane, and methylene chloride. They are stable under normal conditions of storage and use.

B. Use Profile

The isomers in the synthetic allethrin stereoisomers series are broad spectrum insecticides and acaricides commonly used to control a variety of urban insect pests including cockroaches, ants, flies, mosquitoes, lice, fleas, and ticks. The allethrin stereoisomers are almost always formulated with a synergist and one or more additional active ingredients. They are primarily

Chemical Composition of Substructures	CHART I COMPOSITION IN STEREOISOMERS OF COMPOUNDS IN THE ALLETHRIN SERIES Names of Formulations				
	Allethrin	Bioallethrin	S-bioallethrin	D-cis/trans allethrin	Esbiothrin
d-trans chrysanthemic acid of d-allethrolone*	18%	46.5%	90%	36.8%	72%
d-trans chrysanthemic acid of l-allethrolone	18%	46.5%	5%	36.8%	21%
l-trans chrysanthemic acid of d-allethrolone	18%	-	-	-	-
l-trans chrysanthemic acid of l-allethrolone	18%	-	-	-	-
d-cis chrysanthemic acid of d-allethrolone	4.5%	-	-	9.2%	-
d-cis chrysanthemic acid of l-allethrolone	4.5%	-	-	9.2%	-
l-cis chrysanthemic acid of d-allethrolone	4.5%	-	-	-	-
l-cis chrysanthemic acid of l-allethrolone	4.5%	-	-	-	-

* Contains most of the insecticidal activity

formulated as pressurized liquids, but are also available as mosquito coils, dusts, emulsifiable concentrates, soluble concentrate liquids, and ready-to-use liquids.

Data indicate that usage of the allethrins in and around domestic dwellings is high. Usage is less in and around commercial establishments. Bioallethrin comprises the largest segment of the market with nearly one-half of the total allethrin usage (primarily in indoor room foggers, and plant, carpet, and general use aerosols). Allethrin accounts for about a quarter of the usage (primarily in mosquito coils). Pynamin forte accounts for another quarter of the usage (outdoor air foggers). Usage of the other stereiosomers is considered to be minor.

Bioallethrin and S-bioallethrin are also used on nonfood agricultural crops, ornamental plants, and forest trees in recreational areas and domestic indoor and outdoor areas (including sprays, dusts, and foggers), on stored agricultural crops such as dried fruit (no direct application), on stored processed food, in farm milk houses and horse barns, in food handling establishments and supermarkets, and in commercial areas.

Allethrin is used on terrestrial and greenhouse food and nonfood crops, in farm animal quarters and food handling establishments, and also has domestic indoor and outdoor uses as well as aquatic and forestry uses. At present, Pynamin forte is used on terrestrial and greenhouse nonfood crops, in food processing plants, and in domestic indoor and outdoor situations. Refer to the Use Profile Tables for specific information regarding the use of the chemicals.

USE PROFILE TABLE

Allethrin Isomer	OPP (Shaughnessy No.)	Formulations	Predominant Uses
Allethrin	004001/2	Dusts, impregnated materials EC, SC/L, RTU, oil, and pressurized liquids	Cockroaches, ants, flies, mosquitoes, lice, fleas, ticks, terrestrial food crops (e.g., vegetables, citrus fruits, orchard crops), terrestrial nonfood uses (e.g., ornamental plants, turf and recreational areas, aquatic nonfood uses, greenhouse food crops (vegetables), greenhouse nonfood crops (e.g., ornamental plants), domestic outdoor (domestic dwellings), indoor (postharvest use on fruit, vegetables and grains, stored foods and indoor plants and trees).
Bioallethrin	004003	Dusts, impregnated materials EC, SC/L, RTU, and pressurized liquids	Cockroaches, ants, flies, mosquitoes, lice, fleas, ticks, terrestrial food crops (e.g., asparagus, beans, corn, tomatoes, nonbearing cranberries, and citrus), terrestrial nonfood crops (e.g., ornamental plants and forest trees), greenhouse food crops (e.g., asparagus, beans, corn, peppers, and tomatoes), greenhouse nonfood crops (ornamental plants), domestic outdoor (domestic dwellings and outdoor) and domestic, commercial and industrial indoor uses.

USE PROFILE TABLE

Allethrin Isomer	OPP (Shaughnessy No.)	Formulations	Predominant Uses
S-Bioallethrin	004004	Dusts, impregnated materials EC, SC/L, RTU, and pressurized liquids	Cockroaches, ants, flies, mosquitoes, lice, fleas, ticks, terrestrial food crops (e.g., asparagus, beans, corn, tomatoes, nonfood crops (e.g., ornamental plants, and forest trees), greenhouse food crops (e.g., ornamental plants), domestic outdoor (domestic dwellings and outdoor) and domestic, commercial, and industrial uses.
D-Cis/Trans Allethrin	004005	Impregnated materials, EC, SC/L, and pressurized liquids	Cockroaches, ants, flies, mosquitoes, bees, terrestrial nonfood crops (e.g., ornamental plants and forest trees), indoor uses (e.g., ornamental plants and domestic, commercial, and industrial uses.

III. AGENCY ASSESSMENT

A. Summary Science Statement

The Agency has reviewed all available data for allethrin, bioallethrin, S-bioallethrin, D-cis/trans allethrin, and Esbiothrin. As a result of this review, the Agency determined that there are major data gaps in the areas of environmental fate and potential exposure to humans and other nontarget organisms, residue chemistry, and toxicology. The areas of concern are the potential for cumulative residues occurring in or on food items as a result of preharvest and postharvest treatments, the use of bioallethrins in food handling establishments, and the toxicity of bioallethrins to nontarget aquatic organisms resulting from outdoor applications. A summary of these data gaps appears in Table I. Note that this list contains only summary information on the data gaps. More detailed information can be found in the data tables in Appendix I.

Table I

Summary of Data Gaps for the Allethrin Stereoisomers[1]

Toxicology Data Requirement Summary

Acute Toxicity

Acute oral LD_{50} toxicity (Allethrin, Pynamin-forte)
Acute dermal LD_{50} toxicity (Allethrin, Pynamin-forte, S-bioallethrin, Bioallethrin)
Acute inhalation LC_{50} Toxicity (all allethrins)
Eye irritation (all allethrins except Esbiothrin)
Dermal irritation (all allethrins except Esbiothrin)
Dermal sensitization (all allethrins)

Subchronic Toxicity

90-day feeding
  Rodent (all allethrins except Pynamin-forte)
  Nonrodent (all allethrins except Bioallethrin)
21-day dermal (all allethrins)
90-day inhalation (reserved for all allethrins)

Chronic Toxicity

Rodent feeding (all allethrins except Pynamin-forte)
Nonrodent feeding (all allethrins except Bioallethrin)
Rat oncogenicity (all allethrins except Pynamin-forte)
Mouse oncogenicity (all allethrins)
Rat teratogenicity (all allethrins except Bioallethrin)
Rabbit teratogenicity (all allethrins)
Reproduction (all allethrins)

Mutagenicity

Gene mutation (Allethrin, Pynamin-forte, S-bioallethrin)
Chromosomal aberration (all allethrins)
Other mechanisms of mutagenicity (all allethrins except Bioallethrin)

Special Testing

Metabolism (all allethrins)

1/ The Agency believes that these data are necessary to reassess the allethrins. However, EPA will consider requests for data waivers as described in Section VI (Requirement for Submission of Generic Data) of this Registration Standard.

Table I (continued)

Summary of Data Gaps for the Allethrin Stereoisomers

Ecological Effects Data Requirement Summary

The following data are required (but held in reserve pending receipt of the environmental fate data and depending upon use pattern) for all outdoor uses.

Avian reproduction
Field testing - mammals and birds (reserved pending reproduction data)
Freshwater fish LC_{50} (typical EP)
Freshwater aquatic invertebrate LC_{50} (typical EP)
Acute estuarine and marine LC_{50} (fish, shrimp, oyster)
Fish early life stage and invertebrate life cycle (freshwater, estuarine)
Fish life cycle
Field testing (aquatic organisms)

Environmental Fate Data Requirement Summary

The following list summarizes the environmental fate data requirement for each of the allethrins.

TIER I

DEGRADATION STUDIES - LAB
  Hydrolysis
  Photodegradation - water, soil, and air

METABOLISM STUDIES - LAB
  Aerobic metabolism (soil and aquatic)
  Anaerobic metabolism in soil

MOBILITY STUDIES
  Leaching/aged leaching
  Volatility (lab)

TIER II

Anaerobic aquatic metabolism - Reserved
Volatility (Field) - Reserved
Field dissipation (soil) - Reserved
Field dissipation (aquatic, sediment) - Reserved
Field dissipation (soil, long-term) - Reserved
Accumulation studies on rotational crops (confined) - Reserved
Accumulation studies on rotational crops (field) - Reserved
Accumulation studies on irrigated crops - Reserved
Reentry - Reserved
Spray Drift - Reserved
Exposure - Reserved

Table I (continued)

Summary of Data Gaps for the Allethrin Stereoisomers

Environmental Fate Data Requirement Summary (continued)

Accumulation studies in fish	- Reserved
Accumulation studies in aquatic nontarget organisms	- Reserved

Product Chemistry Data Requirement Summary

Product Identity and Composition
Analysis and Certification of Product Ingredients
Physical and Chemical Characteristics

Residue Chemistry: Tolerance Reassessment

- Nature of the Residue (Metabolism) in Plant and Livestock
- Residue Analytical Methods (may be required if additional metabolites of toxicological concern are identified)
- Stability Data
- Magnitude of Residue
  - Crop field trials
  - Postharvest treatment of fruits and vegetables
  - Stored commodities
  - Processing studies
  - Meat/milk/poultry/eggs
  - Food handling

ATTENTION

AS NOTED IN THE NTIS ANNOUNCEMENT, PORTIONS OF THIS REPORT ARE NOT LEGIBLE. HOWEVER, IT IS THE BEST REPRODUCTION AVAILABLE FROM THE COPY SENT TO NTIS.

B. Health Effects Assessment

1. Acute Toxicity

Except for Esbiothrin, the acute toxicological properties of the allethrin stereoisomers are largely unknown. Available data show that Esbiothrin is moderately toxic via the oral route of exposure (Toxicity Category II), and of low toxicity via the dermal route of exposure (Toxicity Category III). The eye and skin irritation studies indicate that it is minimally irritating to the eye and slightly irritating to the skin (Toxicity Categories IV and III, respectively). The acute toxicities of the other stereoisomers covered by this Standard are unknown except for the oral toxicity of Bioallethrin (Toxicity Category III) and S-bioallethrin (Toxicity Category II). Additional data are required.

2. Subchronic Toxicity

Only three studies were available to assess the subchronic toxicity of the allethrin stereoisomers in rodents. These include one 6-month feeding study on S-bioallethrin and two 90-day feeding studies, one on Bioallethrin, and the other on 'S-bioallethrin, both of which are supplementary and one of which (Bioallethrin) may be upgraded upon submission of additional information. In this study rats were administered 0, 500, 1500, 5000, and 10,000 ppm Bioallethrin in the diet for 90 days. A NOEL in this study was established at 1500 ppm based upon a decrease in body weight gain and increased levels of serum liver enzymes in females and increased liver weights in both sexes. The LOEL was 5000 ppm. As indicated above, this study may be upgraded to fully acceptable upon submission of additional information specified in the data tables.

No subchronic feeding studies in a nonrodent species are available. Additional data are required, except for subchronic oral feeding studies for Bioallethrin in a nonrodent species and for D-cis/trans allethrin in rodents for which the Agency has an acceptable 6-month dog feeding study and a chronic feeding/oncogenicity study in rats, respectively.

3. Chronic Toxicity

In a 6-month oral feeding study using beagle dogs (six/sex/dosage group) conducted with Bioallethrin, the animals were administered 0, 200, 1000, and 5000 ppm in the diet. The NOEL in this study was determined to be 200 ppm based on the occurrence of centrilobular hydropic degeneration of the liver in both males and females. Supporting evidence included increases in liver enzymes.

There is only one rodent chronic feeding/oncogenicity study, conducted with D-cis/trans allethrin, available for the allethrin stereoisomers. In this study, rats (50/sex/dosage level with 30 additional animals/sex/dose level for interim sacrifices) were fed 0, 125, 500, and 2000 ppm of the test substance in the diet for 2 years. No oncogenic effects were observed under the conditions of the study. For systemic toxicity, the NOELs are 6.6 mg/kg/day for females and 5.9 mg/kg/day for males (125 ppm), based on decreased body weight gain and the presence of histiocyte "phagocyting" crystals in the livers of females and increased liver weight in the males.

Additional chronic/oncogenicity data are required for all of the allethrin stereoisomers, with the exception of a chronic feeding/oncogenicity study on D-cis/trans allethrin and a chronic dog feeding study on Bioallethrin. Esbiothrin is a combination of S-bioallethrin and Bioallethrin. Based on similarities in subchronic toxicities and chemical composition, the Agency has determined that Esbiothrin may serve as a representative test material for its two components.

There are no data available to assess whether the allethrin stereoisomers cause reproductive effects. Additional data are required for all the isomers subject to this Standard, except that, as with chronic feeding and oncogenicity, the Agency will permit Esbiothrin to serve as a representative test material for S-bioallethrin and Bioallethrin.

4. Teratology

One acceptable teratology study conducted with Bioallethrin is available. In this study, rats were dosed with 50, 125, and 195 mg/kg/day Bioallethrin in the diet. The test compound did not induce developmental effects at the dose levels tested. The NOEL for maternal toxicity is 125 mg/kg/day. The NOEL for fetotoxicity could not be established because of the increased number of fetuses with rudimentary 14th ribs at all dose levels tested.

Teratology data are required in another species for Bioallethrin and in two species for the other stereoisomers subject to this Registration Standard.

5. Mutagenicity

Available mutagenicity data for the allethrin stereoisomers are negative. Esbiothrin was not mutagenic in a reverse mutation test in Salmonella typhimurium at dose levels up to 5000 micrograms/plate. Esbiothrin also produced negative results in a mammalian cell forward mutation study at dose levels up to cytotoxicity, both with and without metabolic activation. Bioallethrin tested negatively in a DNA damage and repair study in E. coli at plate concentrations up to 5000 micrograms/mL and in a reverse mutation assay in Salmonella typhimurium at dose levels up to solubility of the test compound. No other acceptable mutagenicity assays were conducted on any of the other allethrin steroisomers. With the exception of the specific studies described above, the Agency is requiring mutagenicity studies for gene mutation, chromosomal aberration, and other genotoxic effects for all of the allethrin stereoisomers.

6. Special Testing

General Metabolism

No metabolism studies have been conducted on any of the allethrin stereoisomers. Data are required for all of the allethrin compounds.

C. Environmental Characteristics and Effects

1. Environmental Fate

No data on the allethrin stereoisomers are available to assess the environmental fate and transport, and the potential exposure of humans and nontarget organisms. The potential of these compounds to contaminate ground water is unknown. Environmental fate data on two of the eight optical isomers found in the allethrin stereoisomer series are being required on a "tiered" basis. This approach will permit the Agency to make a preliminary assessment of the persistence of these compounds. The requirement for additional testing will be deferred until evaluation of all data submitted under Tier I.

2. Ecological Effects Data Requirement Summary

Ecological effect data are required (but held in reserve pending receipt of the environmental fate data and depending upon use pattern) for all outdoor uses.

Ecological Effects

The available data were adequate to fully assess the hazards relating to ecological effects for all of the allethrin stereoisomers. It should be noted that for the purpose of evaluating ecological effects, data from all allethrin stereoisomers subject to this Standard are considered interchangeable since all contain the most biologically active component, the d-trans of d isomer.

Available data indicate that technical allethrin, D-cis/trans allethrin, and bioallethrin are practically nontoxic to only slightly toxic to birds. An avian single dose oral LD_{50} study with technical allethrin using mallard ducks indicates that the acute oral LD_{50} is greater than 2000 mg/kg. Acceptable avian dietary LC_{50} studies with bioallethrin and D-cis/trans allethrin using bobwhite quail indicate that the LC_{50} values for upland game birds are greater than 2030 ppm and 5620 ppm, respectively. An acceptable LC_{50} conducted with mallard ducks using D-cis/trans allethrin indicate values greater than 5620 mg/kg.

In one acute study, technical allethrin was tested as moderately toxic to honey bees. However, additional data are not required because the outdoor application rates are so low that even a direct application to bees is not likely to result in significant mortality.

Twenty-seven studies were evaluated for effects on freshwater fish. These data indicate that all of the allethrins, are very highly toxic to both coldwater and warmwater fish species. The LC_{50} values ranged from 2.6 ppb for S-bioallethrin using Coho Salmon to 86 ppb for Flathead Minnows using Bioallethrin.

Available data indicate that technical grade allethrin, S-bioallethrin, bioallethrin, and D-cis/trans allethrin are very highly toxic to aquatic invertebrates. The LC_{50} values for technical allethrin ranged from 5.6 ppb using stoneflies to 56.0 ppb using blackflies.

Endangered Species

The Agency has evaluated the risk that the allethrin stereoisomers pose to endangered species. This analysis indicates that the use of the allethrin stereoisomers pose a low potential for hazard to endangered species since the principal use formulations, domestic indoor and outdoor products, are not expected to enter the habitat of susceptible aquatic and terrestrial organisms in significant concentrations. Risk to endangered aquatic species from agricultural uses cannot be assessed until environmental fate data are received and evaluated.

D. Tolerance Reassessment

Tolerances are established for the postharvest use of allethrin per se (allyl homolog of cinerin I) in 40 CFR Part 180.113. Exemptions from the requirements of a tolerance are established for the preharvest use of allethrin per se at 40 CFR Part 180.1002. There are no Canadian or Mexican tolerances or Codex Maximum Residue Limits for residues of allethrin in or on any plant commodity. Therefore, no compatibility questions exist with respect to Codex. EPA has evaluated the data supporting the tolerances and has reached the following conclusions.

1. The metabolism of allethrin in plants is not understood. Upon receipt of plant metabolism data, the tolerance definition will be reevaluated. Likewise, there were no data available to evaluate the metabolism of allethrin in animals. Metabolism data are required.

2. Available gas liquid chromotography methods are adequate for collection of data pertaining to allethrin residues in or on raw agricultural commodities. Allethrin has also been successfully subjected to analysis by multiresidue methods. However, additional methods may be needed depending upon the outcome of the plant and

animal metabolism studies.

3. There are no acceptable data to evaluate the adequacy of the tolerances or the exemptions therefrom for the postharvest and preharvest uses of allethrin. Residue data, including processing studies, are required.

4. At present, no tolerances exist for residues of allethrin in any animal commodity (meat, milk, poultry and eggs). Data requirements regarding the magnitude of allethrin residues in animal products will be determined when all requested data regarding metabolism in plants and animals and magnitude of residues in feed items have been received and evaluated.

5. No tolerances have been established covering residues of allethrin in or on foods resulting from treatment in food/feed handling establishments, and the magnitude of residues which may result from this use has not been adequately elucidated. Available residue data from space spray and contact spray treatments generally show that allethrin residues are either nondetectable or quite low when foods are packaged and covered or uncovered, but that the residues appear to increase when the foods are unpackaged and uncovered. Additional data are required, and depending on the magnitude of residues found, tolerances may have to be proposed for residues of bioallethrin in food/feed exposed during or following treatment in food/feed handling establishments.

Due to the the meager toxicology and residue chemistry data available on the bioallethrin stereoisomers, the Agency was not able to complete the Tolerance Assessment System calculations necessary to establish an acceptable daily intake (ADI). This will be accomplished when the required data are submitted and evaluated.

IV. REGULATORY POSITION AND RATIONALE

A. Regulatory Positions and Rationales

Based on the review and evaluation of all available data on the allethrin stereoisomers, the Agency has made the following determinations. Where label revisions are imposed, specific language is set forth in Section C of this Chapter.

1. The Agency will not begin a special review of any of the allethrin stereoisomers.

Rationale: Based on the data available to the Agency, the allethrin stereoisomers do not meet or exceed any of the risk criteria specified in 40 CFR 154.7 for special review.

2. Since all required environmental fate data are lacking for the stereoisomers in the allethrin series, the Agency is requiring submission of such data on a tiered basis, beginning first with studies to assess the degradation, metabolism, and mobility of these chemicals.

Rationale: Based on product chemistry data results, the allethrins appear to be unstable in light and heat and may therefore be subject to rapid (1-2 days) photodegradation on soil and in water (to either carbon dioxide or residues of no toxicological significance). If this is found to be accurate, there will be very limited opportunity for uptake of residues of concern by crops/fish/nontarget organisms, or for mobility through soil. If, on the other hand, the allethrins are found to be more than minimally persistent, then appropriate Tier II testing will be required. This approach does not impose an unreasonable amount of early testing, but could lead to extensive data requirements after the Tier I data are submitted and evaluated. At this time, the Agency does not believe that there is any potential for these chemicals to contaminate ground water.

3. The Agency is permitting registrants to use Esbiothrin as a representative test material for chronic studies on Bioallethrin and S-bioallethrin.

Rationale: Based on the policy established as part of the DCI Notice for Allethrins issued February 21, 1985, Esbiothrin may be used as a representative test material for chronic studies on Bioallethrin and S-bioallethrin. This policy is premised on the fact that these compounds have similar chemical structures and synthetic pathways, and similar target organs, particularly the liver. Also, the available subchronic studies for Bioallethrin and S-bioallethrin have similar NOELs and LOELs. Separate chronic toxicity studies are required for allethrin and D-cis/trans allethrin.

4. The Agency is not requiring registrants to place endangered species labeling on End Use Products containing any of the allethrins at this time.

Rationale: The principal use patterns for the allethrins are indoor and outdoor domestic. Although the allethrins are highly toxic to fish and aquatic invertebrates, their predominant use patterns are not expected to result in any adverse impact on endangered or threatened species. Risk to endangered aquatic species from agricultural uses will assessed when environmental fate data are received and evaluated.

5. The Agency will not require reentry protection data to be submitted or impose an interim reentry interval for the allethrin products at this time.

Rationale: The allethrins do not meet the 40 CFR 158.140 criteria for submitting reentry data. While there are data gaps, the acute toxicity of these chemicals appears to be low to moderate. When the acute toxicity data gaps are filled, the Agency will reevaluate the need for reentry intervals or other protective measures.

6. The Agency is not imposing restricted use classification on the allethrins.

Rationale: At present, there is no indication that the allethrins meet the criteria for restricted use. However, the Agency will reevaluate the issue when all the required toxicology and environmental fate data have been evaluated.

7. Available residue chemistry and toxicology data are insufficient to permit the Agency to conduct a full tolerance reassessment.

Rationale: Data gaps exist for plant and animal metabolism, magnitude of the residue for both the pre- and postharvest uses of the allethrins, for processed food and feed items, and for foods which may bear residues as a result of treatments in food handling establishments (see Table A of the Data Appendices). Since the data required for individual commodities are dependent on the metabolism data, the metabolism data will be obtained and reviewed prior to any required residue data. If registrants do not commit to conduct the full battery of residue chemistry data required, the Agency will revoke the established tolerances and exemptions therefrom within 1 year of the date of issuance of this Standard.

8. Residue chemistry data, nature of residue (metabolism) in plants and animals (livestock), and environment fate studies under Tier I will be given priority.

Rationale: A priority review means that the data will be reviewed by the appropriate scientific disciplines upon receipt.

Residue Chemistry Data relating to plant and animal metabolism will be given a priority review because: 1) these studies determine whether additional metabolite or toxicology concerns are identified; and 2) the Agency may make an expeditious reassessment of the food and feed tolerances for allethrin.

Environmental fate Tier I data will be given priority review since the findings may trigger generation of Tier II studies. This will give the Agency the opportunity to expeditiously assessing issues relating to applicator and worker exposure (protective clothing and reentry), to assess potential for ground water contamination, and to determine the potential for adverse ecological effects.

9. While the required data are under development all currently registered products containing the allethrin stereoisomers (allethrin, Bioallethrin, S-bioallethrin, D-cis/trans allethrin, and Esbiothrin) as active ingredients may be sold, distributed, formulated, and used, subject to the terms and conditions specified in the Standard. Registrants must agree to develop and provide additional data, as specified in the Data Appendices, in order to maintain existing registrations.

Rationale: Under FIFRA, the Agency may choose not to cancel or withhold registration if the data are missing or inadequate (see FIFRA section 3(c)(2)(B) and 3(c)(7)). The issuance of this Standard provides the mechanism for obtaining necessary data. The data will be reviewed and evaluated, after which the Agency will determine if additional regulatory actions are necessary.

B. Criteria for Registration

To be registered or reregistered under this Standard, Technical Products, and Manufacturing-Use Concentrates must contain as a sole active ingredient one of the following: allethrin (allyl homolog of cinerin I), D-cis/trans allethrin, Bioallethrin, S-bioallethrin, Esbiothrin; bear required labeling; and conform to the product composition, acute toxicity limits, and use pattern requirements listed in this document.

C. Acceptable Ranges and Limits

1. Product Composition Standard

To conform to this Standard, manufacturing-use concentrates and technical products must contain as a sole active ingredient one of the following stereoisomers of the allethrin series covered by this Standard. Each manufacturing-use concentrate and technical product formulation proposed for registration must be fully described with an appropriate certification of limits, stating maximum and minimum amounts of the active and intentionally added inert ingredients present in the product. Impurities found at levels greater than 0.1 percent must be fully described.

2. Acute Toxicity Limits

The Agency will consider registration of technical products and manufacturing-use concentrates containing either allethrin, D-cis/trans allethrin, Bioallethrin, S-bioallethrin, and Esbiothrin provided the product is supported by appropriate acute toxicity data and the labeling for the product bears the appropriate statement for the toxicity category in which the product is placed.

3. Use Patterns

To be registered under this Standard, all manufacturing-use concentrates must be labeled for formulation into other manufacturing-use concentrates or into end use products bearing federally registered uses. Appendix III lists all Federally-registered uses for each of the allethrin stereoisomers as well as approved maximum application rates and frequencies.

D. Required Labeling

All products must bear appropriate labeling as specified below in 40 CFR 162.10, PR Notices 83-2 and 83-3. Appendix II contains further information on label requirements.

No pesticide product containing any of the allethrin stereoisomers as the active ingredient may be released for shipment after March 31, 1989 unless the product bears amended labeling which complies with the requirements of this Standard.

No pesticide product containing any of the allethrin stereoisomers as the active ingredient may be distributed, sold, offered for sale, held for sale, shipped, delivered for shipment, or received and (having been so received) delivered or offered to be delivered by any person after March 31, 1990 unless the product bears amended labeling approved by EPA, which complies with the requirements of this Standard.

The following information must appear on all manufacturing-use concentrates and end use products:

1. Ingredient Statement

Registrants of products containing any of the allethrin stereoisomers are required to revise their labels to the appropriate format listed below.

(Example for Racemic Allethrin)

ACTIVE INGREDIENT:
Allethrin . . . . ___%
INERT INGREDIENTS: . . . . ___%

ACTIVE INGREDIENT:
d-trans allethrin . . . . ___%
INERT INGREDIENTS: . . . . ___%

(Example for S-bioallethrin)

ACTIVE INGREDIENT:
d-trans-chrysanthemum monocarboxylic
acid ester of d-2-allyl-4-hydroxy-
3-methyl . . . . ___%
INERT INGREDIENTS: . . . . ___%

(Example for D-cis/trans allethrin: Pynamin Forte™)

ACTIVE INGREDIENT:
D-cis/trans allethrin . . . . ___%
INERT INGREDIENTS: . . . . ___%

(Example for Esbiothrin)

ACTIVE INGREDIENT:
d/l-allethrolone d-trans
chrysanthemate . . . . ___%
INERT INGREDIENTS: . . . . ___%

2. Use pattern Statement

All manufacturing use products must state that they are intended for formulation into end-use products for acceptable use patterns. Labeling must specify sites which are listed in Appendix III, Use Index. However, no use may be included on the label when the registrant fails to agree to comply with the data requirements in Table B for the use pattern.

3. Environmental Hazard Statements

a. Manufacturing-Use Concentrates and Technical Products

This pesticide is highly toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds,. estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your local State Water Board or Regional Office of the EPA.

b. End-Use Products

1) Domestic Outdoor

This pesticide is highly toxic to fish. Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). Drift from treated areas may be hazardous to organisms in adjacent aquatic sites. Do not contaminate water when disposing of equipment washwaters.

2) Indoor

Do not contaminate water when disposing of equipment washwaters.

V. PRODUCTS SUBJECT TO THIS STANDARD

All products containing one or more of the pesticides identified in Section II.A. are subject to certain requirements for data submission or changes in composition, labeling or packaging of the product. The applicable requirements depend on whether the product is a manufacturing or end use product and whether the pesticide is the sole active ingredient or one of multiple active ingredients.

Products are subject to this Registration Standard as follows:

A. Manufacturing use concentrates and Technical Products containing the allethrin stereoisomers as the sole active ingredient are subject to:

1. The restrictions (if any) upon use, composition, or packaging listed in Section IV, if they pertain to the manufacturing use product.

2. The data requirements listed in Tables A and B[2]

3. The labeling requirements specified for manufacturing use products in Section IV.

4. Administrative requirements (application forms, Confidential Statement of Formula, data compensation provisions) associated with reregistration.

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[2] Data requirements are listed in the three Tables in Appendix I of this Registration Standard. The Guide to Tables in that Appendix explains how to read the Tables.

Table A lists generic data requirements applicable to all products containing the pesticide subject to this Registration Standard. Table B lists product-specific data applicable to manufacturing use products. The data in Tables A and B need not be submitted by a producer who is eligible for the formulator's exemption for that active ingredient.

B. Manufacturing use concentrates containing any of the allethrin stereoisomers as one of multiple active ingredients are subject to:

1. The data requirements listed in Table A.

2. The labeling requirements specified for manufacturing use products in Section IV.

C. End use products containing any of the allethrin stereoisomers sole active ingredient are subject to:

1. The restrictions (if any) upon use, composition, or packaging listed in Section IV if they pertain to the end use product.

2. If eligible for the formulator's exemption[3], the data requirements listed in Table A.[3]

3. The labeling requirements specified for end use products in Section IV.

D. End use products containing any of the allethrin stereoisomers as one of multiple active ingredients are subject to:

1. If not eligible for the formulator's exemption, the date requirements listed in Table A.

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[3] If you purchase from another producer and use as the source of your active ingredient only EPA-registered products, you are eligible for the formulator's exemption for generic data concerning that active ingredient (Table A) and product-specific data for the registered manufacturing use product you purchase (Table B).

Two circumstances nullify this exemption:

1) If you change sources of active ingredient to an unregistered product, formulate your own active ingredient, or acquire your active ingredient from a firm with ownership in common with yours, you individually lose the exemption and become subject to the data requirements in Table A.

2) If no producer subject to the generic data requirements in Table A agrees to submit the required data, all end use producers lose the exemption, and become subject to those data requirements.

2. The labeling requirements specified for end use products in Section IV.

VI. REQUIREMENT FOR SUBMISSION OF GENERIC DATA

This portion of the Registration Standard is a notice issued under the authority of FIFRA sec. 3(c)(2)(B). It refers to the data listed in Table A, which are required to be submitted by registrants to maintain in effect the registration of products containing this active ingredient.[4]

A. What are generic data?

Generic data pertain to the properties or effects of a particular active ingredient. Such data are relevant to an evaluation of all products containing that active ingredient regardless of whether the product contains other ingredients (unless the product bears labeling that would make the data requirement inapplicable).

Generic data may also be data on a "typical formulation" of a product. "Typical formulation" testing is often required for ecological effects studies and applies to all products having that formulation type. These are classed as generic data, and are contained in Table A.

B. Who must submit generic data?

All current registrants are responsible for submitting generic data in response to a data request under FIFRA sec. 3(c)(2)(B) (DCI Notice). EPA has decided, however, not to require a registrant who qualifies for the formulator's exemption (FIFRA sec. 3(c)(2)(D) and § 152.85) to submit generic data in response to a DCI notice if the registrant who supplies the active ingredient in his product is complying with the data request.

If you are granted a generic data exemption, you rely on the efforts of other persons to provide the Agency with the required data. If the registrants who have committed to generate and submit the required data fail to take appropriate steps to meet the requirements or are no longer in compliance with this data requirements notice, the Agency will consider that both they and you are not in compliance and will normally initiate proceedings to suspend the registrations of both your product(s) and their product(s) unless you commit to submit and submit the required data in the specified timeframe. In such cases, the Agency generally will not grant a time extension for submitting the data.

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[4] Registrations granted after issuance of this Standard will be conditioned upon submission or citation of the data listed in this Registration Standard.

If you are not now eligible for a formulator's exemption, you may qualify for one if you change your source of supply to a registered source that does not share ownership in common with your firm. If you choose to change sources of supply, the Confidential Statement of Formula must identify the new source(s) and you must submit a Formulator's Exemption Statement form.

If you apply for a new registration for products containing this active ingredient after the issuance of this Registration Standard, you will be required to submit or cite generic data relevant to the uses of your product if, at the time the application is submitted, the data have been submitted to the Agency by current registrants. If the required data have not yet been submitted, any new registration will be conditioned upon the new registrant's submission or citation of the required data not later than the date upon which current registrants of similar products are required to provide such data. See FIFRA sec. 3(c)(7)(A). If you thereafter fail to comply with the condition of that registration to provide data, the registration may be cancelled (FIFRA sec. 6(e)).

C. What generic data must be submitted?

You may determine which generic data you must submit by consulting Table A. That table lists the generic data needed to evaluate current uses of all products containing this active ingredient, the uses for which such data are required, and the dates by which the data must be submitted to the Agency.

D. How to comply with DCI requirements.

Within 90 days of your receipt of this Registration Standard, you must submit to EPA a completed copy of the form entitled "FIFRA Section 3(c)(2)(B) Summary Sheet" (EPA Form 8580-1, enclosed) for each of your products. On that form you must state which of the following six methods you will use to comply with the DCI requirements:

1. You will submit the data yourself.

2. You have entered into an agreement with one or more registrants to jointly develop (or share in the cost of developing) the data, but will not be submitting the data yourself. If you use this method, you must state who will submit the data on which you will rely. You must also provide EPA with documentary evidence that an agreement has been formed which allows you to rely upon the data to be submitted. Such evidence may be: (1) your letter offering to join in an agreement and the other registrant's acceptance of your offer, (2) a written statement by the parties that an agreement exists, or (3) a written statement by the person who will be submitting the data that you may rely upon its submission. The Agency will also require adequate assurance that the person whom you state will provide the data is taking appropriate steps to secure it. The agreement to produce the data need not specify all of the terms of the final arrangement between the parties or a mechanism to resolve the terms.

If you and other registrants together are generating or submitting requested data as a task force or consortium, a representative of the group should request a Joint Data Submitter Number from the Registration Support and Emergency Response Branch, Registration Division. The request must include the following information:

a. A list of the members of the consortium;
b. The name and address of the designated representative of the consortium, with whom EPA will correspond concerning the data;
c. Identity of the Registration Standard containing the data requirement;
d. A list of the products affected (from all members of the consortium); and
e. Identification of the specific data that the consortium will be generating or submitting.

The Agency will assign a number to the consortium, which should be used on all data submissions by the consortium.

3. You have attempted to enter into an agreement to jointly develop data, but no other registrant has accepted your offer. You request that EPA not suspend your registration for non-compliance with the DCI. EPA has determined that, as a general policy, it will not suspend the registration of a product when the registrant has in good faith sought and continues to seek to enter into a data development/cost sharing program, but the other registrants developing the data have refused to accept its offer. [If your offer is

accepted, you may qualify for Option 2 above by entering into an agreement to supply the data.]

In order to qualify for this method, you must:

1. File with EPA a completed "Certification of Attempt to Enter into an Agreement with other Registrants for Development of Data" (EPA Form 8580-6, enclosed).

2. Provide us with a copy of your offer to the other registrant and proof of the other registrant's receipt of your offer (such as a certified mail receipt). Your offer must, at a minimum, contain the following language or its equivalent:

> [Your company name] offers to share in the burden of producing the data required pursuant to FIFRA sec. 3(c)(2)(B) in the [name of active ingredient] Registration Standard upon terms to be agreed or failing agreement to be bound by binding arbitration as provided by FIFRA section 3(c)(2)(B)(iii).

The remainder of your offer may not in any way attempt to limit this commitment. If the other registrant to whom your offer is made does not accept your offer, and if the other registrant informs us on a DCI Summary Sheet that he will develop and submit the data required under the DCI, then you may qualify for this option. In order for you to avoid suspension under this method, you may not later withdraw or limit your offer to share in the burden of developing the data.

In addition, the other registrant must fulfill its commitment to develop and submit the data as required by this Notice in a timely manner. If the other registrant fails to develop the data or for some other reason would be subject to suspension, your registration as well as that of the other registrant will normally be subject to initiation of suspension proceedings, unless you commit to submit and submit the required data in the specified timeframe. In such cases, the Agency generally will not grant a time extension for submitting the data.

4. You request a waiver of the data requirement. If you believe that a data requirement does not (or should not) apply to your product or its uses, you must provide EPA with a statement of the reasons why you believe this is so. Your statement must address the specific composition or use factors that lead you to believe that a requirement does not apply. Since the Agency has carefully considered the composition and uses of pesticide products in determining that a data requirement applies, EPA does not anticipate that many waivers will be granted. A request for waiver does not extend the timeframes for developing required data, and if your waiver

request is denied, your registration may be suspended if you fail to submit the data.

5. You request that EPA amend your registration by deleting the uses for which the data are needed. You are not required to submit data for uses which are no longer on your label.

6. You request voluntary cancellation of the registration of your product(s) for which the data are needed.

E. Testing Protocols, Standards for Conducting Acceptable Tests, Guidance on Evaluating and Reporting Data.

All studies required under this Notice must be conducted in accordance with test standards outlined in the Pesticide Assessment Guidelines, unless other protocol or standards are approved for use by the Agency in writing.

As noted herein, these EPA Guidelines, which are referenced in the Data Tables, are available from the National Technical Information Service (NTIS), Attn: Order Desk, 5285 Port Royal Road, Springfield, VA 22161 (tel: 703-487-4650).

Protocols approved by the Organization for Economic Cooperation and Development (OECD) are also acceptable if the OECD-recommended test standards conform to those specified in the Pesticide Data Requirements regulation (Part 158.70). Please note, however, that certain OECD standards (such as test duration, selection of test species, and degradate identification which are environmental fate requirements) are less restrictive than those in the EPA Assessment Guidelines listed above. When using the OECD protocols, they should be be modified as appropriate so that the data generated by the study will satisfy the requirements of Part 158. Normally, the Agency will not extend deadlines for complying with data requirements when the studies were not conducted in accord with acceptable standards. The OECD protocols are available from OECD, 1750 Pennsylvania Avenue, N.W., Washington, D.C. 20006.

F. Procedures for requesting a change in testing protocol.

If you will generate the required data and plan to use test procedures which deviate from EPA's Pesticide Assessment Guidelines or the Reports of Expert Groups to the Chemicals Group, Organization for Economic Cooperation and Development (OECD) Chemicals Testing Programme, you must submit for EPA approval the protocols you propose to use.

You should submit your protocols before beginning testing, because the Agency will not ordinarily accept as sufficient studies using unapproved protocols. A request for protocol approval will not extend the timeframe for submission of the data, nor will extensions generally be given to conduct studies due to submittal of inappropriate protocols.

G. Procedures for requesting extensions of time.

If you think that you will need more time to generate the data than is allowed by EPA's schedule, you may submit a request for an extension of time. Any request for a time extension which is made as an initial response to a section 3(c)(2)(B) request notice must be submitted in writing to the Product Manager listed at the end of this section and must be made by the 90-day deadline for response. Once dates have been committed to and EPA has accepted these commitments, any subsequent requests for a time extension must be submitted in writing to the Office of Compliance Monitoring at the address given in Section IX.E.

EPA will view failure to request an extension before the data submission response deadline as a waiver of any future claim that there was insufficient time to submit the data. While EPA considers your request, you must strive to meet the deadline for submitting the data.

The extension request should state the reasons why you believe that an extension is necessary and the steps you have taken to meet the testing deadline. Time extensions normally will not be granted due to problems with laboratory capacity or adequacy of funding, since the Agency believes that with proper planning these can be overcome.

A request for an extension does not extend the timeframe for submission of the data. If EPA denies your request for a time extension and you do not submit the data as requested, EPA may begin proceedings to suspend the registrations of your products.

H. PR Notice 86-5 and Any Other Requirements Referenced or Included Within this Notice.

All data submitted in response to this Notice must comply with EPA requirements regarding the reporting of data, including the manner of reporting, the completeness of results, and the adequacy of any required supporting (or raw) data, including, but not limited to, requirements referenced or included in this Notice or contained in PR Notice 86-5 (issued July 29, 1986).

I. Existing stocks provision upon suspension or cancellation.

The Agency has determined that if a registration is suspended for failure to respond to a DCI request under FIFRA sec. 3(c)(2)(B), an existing stocks provision is not consistent with the Act. Accordingly, the Agency does not anticipate granting permission to sell or distribute existing stocks of suspended product except in rare circumstances. If you believe that your product will be suspended or cancelled and that an existing stocks provision should be granted, you have the burden of clearly demonstrating to EPA that granting such permission would be consistent with the Act. The following information must be included in any request for an existing stocks provision:

1. Explanation of why an existing stocks provision is necessary, including a statement of the quantity of existing stocks and your estimate of the time required for their sale or distribution; and

2. Demonstration that such a provision would be consistent with the provisions of FIFRA.

VII. REQUIREMENT FOR SUBMISSION OF PRODUCT-SPECIFIC DATA

Under its DCI authority, EPA has determined that certain product-specific data are required to maintain your registrations in effect. Product-specific data are derived from testing using a specific formulated product, and, unlike generic data, generally support only the registration of that product. All such data must be submitted by the dates specified in this Registration Standard.

If you have a manufacturing use product, these data are listed in Table B. If you have an end use product, the data are listed in Table C. As noted earlier, the Agency has decided that it will not routinely require product-specific data for end use products at this time. Therefore, Table C may not be contained in this Registration Standard; if there is no Table C, you are not required to submit the data at this time.

In order to comply with the product specific data requirements, you must follow the same procedures as for generic data. See Section VI.D, E, F, and G. You should note, however, that product chemistry data are required for every product, and the only acceptable responses are options VI.D.1. (submit data) or VI.D.6.(cancellation of registration).

Failure to comply with the product-specific data requirements for your products will result in suspension of the product's registration.

VIII. REQUIREMENT FOR SUBMISSION OF REVISED LABELING

FIFRA requires each product to be labeled with accurate, complete and sufficient instructions and precautions, reflecting the Agency's assessment of the data supporting the product and its uses. General labeling requirements are set out in 40 CFR 162.10 (see Appendix II - LABELING and SUMMARY). In addition, labeling requirements specific to products containing this pesticide are specified in Section IV.D of this Registration Standard. Applications submitted in response to this notice must include draft labeling for Agency review.

If you fail to submit revised labeling as required, which complies with 40 CFR 162.10 and the specific instructions in Section IV.D., EPA may seek to cancel or suspend the registration of your product under FIFRA sec. 6.

IX. INSTRUCTIONS FOR SUBMISSION

A. Manufacturing Use Products Concentrates and Technical Products containing any of the allethrin stereoisomers pesticide as sole active ingredient.

1. Within 90 days from receipt of this document, you must submit to the Product Manager in the Registration Division for each product subject to this Registration Standard:

a. The "FIFRA Section 3(c)(2)(B) Summary Sheet" (EPA Form 8580-1), with appropriate attachments.[5]

b. Confidential Statement of Formula (EPA Form 8570-4).

c. Formulator's Exemption Statement (EPA Form 8570-27), if applicable.

d. Evidence of compliance with data compensation requirements of FIFRA sec. 3(c)(1)(D). Refer to 40 CFR 152.80-152.99.

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[5] If on the Summary Sheet, you commit to develop the data, present arguments that a data requirement is not applicable or should be waived, or submit protocols or modified protocols for Agency review, you must submit a copy of the Summary Sheet (and any supporting information) to the Office of Compliance Monitoring, which will be monitoring the data generated in response to this notice. This submission is in addition to responding to the Product Manager, and should be submitted to the Office of Compliance Monitoring at the address given at the end of this section. (Actual studies are not to be submitted to the Office of Compliance Monitoring.)

2. Within 9 months from receipt of this document you must submit to the Product Manager:

a. Application for Pesticide Registration (EPA Form 8570-1).

b. Two copies of any required product-specific data (See Table B).

c. Three copies of draft labeling, including the container label and any associated supplemental labeling. Labeling should be either typewritten text on 8-1/2 x 11 inch paper or a mockup of the labeling suitable for storage in 8-1/2 x 11 files. The draft label must indicate the intended colors of the final label, clear indication of the front panel of the label, and the intended type sizes of the text.

d. Product Specific Data Report (EPA Form 8580-4).

3. Within the times set forth in Table A, you must submit to the Registration Division all generic data, unless you are eligible for the formulator's exemption. If for any reason any test is delayed or aborted so that the schedule cannot be met, immediately notify the Product Manager and the Office of Compliance Monitoring of the problem, the reasons for the problem, and your proposed course of action.

B. Manufacturing Use Concentrates and Technical Products containing any of the allethrin stereoisomers in combination with other active ingredients.

1. Within 90 days from receipt of this document, you must submit to the Product Manager in the Registration Division:

a. FIFRA sec. 3(c)(2)(B) Summary Sheet, with appropriate attachments[5] (EPA Form 8580-1).

b. Confidential Statement of Formula (EPA Form 8570-4)

c. Formulator's Exemption Statement (EPA Form 8570-27), if applicable.

2. Within 9 months of receipt of this document, you must submit to the Product Manager:

Three copies of draft labeling, including the container label and any associated supplemental labeling. Labeling should be either typewritten text on 8-1/2 x 11 inch paper or a mockup of the labeling suitable for storage in 8-1/2 x 11 files. The draft label must indicate the

3. Within the time frames set forth in Table A, you must submit to the Registration Division all generic data, unless you are eligible for the formulator's exemption. If for any reason any test is delayed or aborted so that the schedule cannot be met, immediately notify the Product Manager and the Office of Compliance Monitoring of the problem, the reasons for the problem, and your proposed course of action.

C. End Use Products containing any of the allethrin stereoisomers alone or in combination with other active ingredients.

1. Within 90 days from receipt of this document, you must submit to the Product Manager in the Registration Division:

a. FIFRA Section 3(c)(2)(B) Summary Sheet, with appropriate attachments[5] (EPA Form 8580-1).

b. Confidential Statement of Formula (EPA Form 8570-4).

c. Formulator's Exemption Statement (EPA Form 8570-27), if applicable.

2. Within 9 months from receipt of this document you must submit to the Product Manager:

a. Two copies of any product-specific data, if required by Table C.

b. Product Specific Data Report (EPA Form 8580-4), if Table C lists required product-specific data.

c. Three copies of draft labeling, including the container label and any associated supplemental labeling. Labeling should be either typewritten text on 8-1/2 x 11 inch paper or a mockup of the labeling suitable for storage in 8-1/2 x 11 files. The draft labeling must indicate the intended colors of the final label, clear indication of the front panel of the label, and the intended type sizes of the text. End use product labeling must comply specifically with the instructions in Section IV (Regulatory Position and Rationale).

intended colors of the final label, clear indication of the front panel of the label, and the intended type sizes of the text.

E. Intrastate Products containing the subject pesticide either as sole active ingredient or in combination with other active ingredients.

Applications for full Federal registration of intrastate products are required to be submitted no later than July 31, 1988.

F. Addresses

The required information must be submitted to the following address:

Phillip O. Hutton, Product Manager 17
Registration Division (TS-767C)
Office of Pesticide Programs
Environmental Protection Agency
401 M St., SW
Washington, D.C. 20460

The address for submissions to the Office of Compliance Monitoring is:

Laboratory Data Integrity Program
Office of Compliance Monitoring (EN-342)
Environmental Protection Agency
401 M St., SW
Washington, D.C. 20460.

APPENDIX I

DATA APPENDICES
GUIDE TO TABLES

Tables A and B contain listings of data requirements for the pesticide covered by this Registration Standard.

Table A contains generic data requirements that apply to the pesticide in all products, including data requirements for which a "typical formulation" is the test substance.

Table B contains product-specific data requirements that apply only to a manufacturing-use product.

The data tables are generally organized according to the following format:

1. Data Requirements (Column 1). The data requirements are listed in the order in which they appear in 40 CFR Part 158. The reference numbers accompanying each test refer to the test protocols set out in the Pesticide Assessment Guidelines, which are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

2. Test Substance (Column 2). This column lists the composition of the test substance required to be used for the test as follows:

   TGAI = Technical grade of the active ingredient
   PAI = Pure active ingredient
   PAIRA = Pure active ingredient, radiolabeled
   TEP = Typical end-use formulation
   MP = Manufacturing-use product
   EP = End-use product
   N/A = Data requirement not applicable to the use pattern

   Any other test substances, such as metabolites, will be specifically named in Column 2, or in footnotes to the table.

3. Use Pattern (Column 3). This column indicates the use patterns to which the data requirement applies. Use patterns are the same as those given in 40 CFR Part 158.

The following letter designations are used for the given use patterns:

A = Terrestrial, food
B = Terrestrial, nonfood
C = Aquatic, food
D = Aquatic, nonfood
E = Greenhouse, food
F = Greenhouse, nonfood
G = Forestry
H = Domestic outdoor
I = Indoor

Any other designations will be defined in a footnote to the table.

4. Does EPA Have Data? (Column 4). This column indicates one of three answers:

   YES - EPA has data in its files that completely satisfy this data requirement. These data may be cited by other registrants in accordance with the data compensation requirements of Part 152, Subpart E.

   PARTIALLY - EPA has some data in its files, but such data do not fully satisfy the data requirement. In some cases, the Agency may possess data on one of two required species, or may possess data on one test substance but not all. The term may also indicate that the data available to EPA are incomplete. In this case, when the data are clarified, or additional details of the testing submitted by the original data submitter, the data may be determined to be acceptable. If this is the case, a footnote to the table will usually say so.

   NO - EPA either possesses no data which are sufficient

   to fulfill the data requirement, or the data which EPA does possess are flawed scientifically in a manner that cannot be remedied by clarification or additional information.

5. Bibliographic Citation (Column 5). If the Agency has acceptable data in its files, this column lists the identifying number of each study. This normally is the Master Record Identification (MRID) Number, but may be a GS number if no MRID number has been assigned. Refer to the Bibliography Appendices for a complete citation of the study.

6. Must Additional Data Be Submitted? (Column 6). This column indicates whether the data must be submitted to the Agency. If column 3 indicates that the Agency already has data, this column will usually indicate NO. If column 3 indicates that the Agency has only partial data or no data, this column will usually indicate YES. In some cases, even though the Agency does not have the data, EPA will not require its submission because of the unique characteristics of the chemical; because data on another chemical can be used to fulfill the data requirement; or because the data requirement has been waived or reserved. Any such unusual situations will be explained in a footnote to the table.

7. Timeframe For Submission (Column 7). If column 5 requires that data be submitted, this column indicates when the data are to be submitted, based on the receipt data of the Registration Standard. The timeframes are those established either as a result of a previous DCI Notice, or standardized timeframes established by PR Notice 85-5 (August 22, 1985).

8. Footnotes (at the end of each table). Self-explanatory.

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN[1]

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data?[2]	Bibliographic Citation[2]	Must Additional Data be Submitted?	Time Frame for Submission
§158.120 Product Chemistry						
Product Identity						
61-2 - Description of Beginning Materials and Manufacturing Process	TGAI	All	No	N/A	Yes[3/]	6 Months
61-3 - Discussion of Formation of Impurities	TGAI	All	No	N/A	Yes[4/]	6 Months
Analysis and Certification of Product Ingredients						
62-1 - Preliminary Analysis	TGAI	All	No	N/A	Yes[5/]	12 Months
Physical and Chemical Characteristics						
63-2 - Color	TGAI	All	No	N/A	Yes[6/]	6 Months
63-3 - Physical State	TGAI	All	No	N/A	Yes[6/]	6 Months
63-4 - Odor	TGAI	All	No	N/A	Yes[6/]	6 Months
63-5 - Melting Point	TGAI	All	No	N/A	Yes[6,7/]	6 Months
63-6 - Boiling Point	TGAI	All	No	N/A	Yes[6,8]	6 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN[1]

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data?[2]	Bibliographic Citation[2]	Must Additional Data be Submitted?	Time Frame for Submission
§158.120 Product Chemistry (Continued)						
Physical and Chemical Characteristics (Continued)						
63-7 - Density, Bulk Density, or Specific Gravity	TGAI	All	No	N/A	Yes[6]/	6 Months
63-8 - Solubility	TGAI or PAI	All	No	N/A	Yes[6]/	6 Months
63-9 - Vapor Pressure	TGAI or PAI	All	No	N/A	Yes[6]/	6 Months
63-10 - Dissociation constant	TGAI or PAI	All	No	N/A	Yes[6]/	6 Months
63-11 - Octanol/water partition coefficient	PAI	All	No	N/A	Yes[6,9]	6 Months
63-12 - pH	TGAI	All	No	N/A	Yes[6,10]	6 Months
63-13 - Stability	TGAI	All	No	N/A	Yes[6]	6 Months
Other Requirements:						
64- 1 - Submittal of samples	N/A	N/A	N/A	N/A	No	

1/ Note that separate Product Chemistry Data must be submitted for each of the technical grade of active ingredient covered by this Standard.

2/ Not applicable. Although product chemistry data may been submitted in the past, the Agency has determined that these data must be resubmitted for each pesticide. New requirements have been introduced and previously submitted data must be updated. Therefore bibliographic citations for the old data are not applicable.

Table A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN1/

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§158.120 Product Chemistry (Continued)

3/ Complete information must be provided regarding the nature of the process (batch or continuous), the relative amounts of beginning materials and the order in which they are added, the chemical equations for each intended reaction, equipment used to produce each intermediate and the final product, reaction conditions, the duration of each step of the process, purification procedures, and quality control measures. In addition, the name and address of the manufacturer, producer, or supplier of each of the beginning material must be provided, along with information regarding the properties of each beginning material used to manufacture each product.

4/ A detailed discussion of all impurities that are or may be present at ≥0.1%, based on knowledge of the beginning materials, chemical reactions (intended and side) in the manufacturing process, and any contamination during and after production must be submitted.

5/ Five or more representative samples must be analyzed for the amount of active ingredient and each impurity for which a certified limit is required. Complete validation data (accuracy, precision) must be submitted for each analytical method used.

6/ Physical chemical characteristics (color, physical state, odor, melting point, boiling point, specific gravity, solubility, vapor pressure, dissociation constant, K_{ow}, pH, and stability) as required in 40 CFR 158.120 and more fully described in the Pesticide Assessment Guidelines, Subdivision D must be submitted.

7/ Data needed if the technical chemical is a solid at room temperature.

8/ Data needed if the technical chemical is a liquid at room temperature.

9/ Required if the technical chemical is organic and non-polar.

10/ Required if the test substance is dispersible with water.

TABLE A
GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

Data Requirement	Test Substance[1]/	Use Patterns	Does EPA Have Data?	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission[2]
§158.125 Residue Chemistry						
171-2 - Chemical Identity[3]/						6 Months
171-3 - Directions for Use			(See index)			6 Months
171-4 - Nature of Residue (Metabolism)						
- Plants	PAIRA		No	---	Yes[4]/	18 Months
- Livestock	PAIRA & Plant Metabolites		No	---	Yes[5,6]/	18 Months
171-4 - Residue Analytical Method	TGAI & Metabolites		Yes	00031930 00035929 00064646 00135387	Yes[7]/	15 Months
171-4. Storage stability data	PAI or TEP, and metabolites		No		Yes[8]/	18 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

Data Requirement	Test Substance[1/]	Use Patterns	Does EPA Have Data?	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission[2]
§158.125 Residue Chemistry - Continued						
171-4 - Magnitude of the Residue - Residue Studies						
- Crop field trials						
-alfalfa, apples, beans, broccoli, Brussels sprouts, cabbage, cauliflower, celery, citrus, clover, collards, curcurbits, endive horseradish, kale, kohlrabi, lettuce, mustard greens, parsley, peaches, pears, peas, peppers, potatoes, radishes, rutabagas, sorghum, spinach, sugarcane, tomatoes, and turnips	TEP		No		Yes[9/]	18 Months
-artichokes,(jerusalem), carrot, chicory, corn, garlic, leeks, onions, parsnips, salsify, shallots, and sweet potatoes	TEP		No		Yes[10/]	18 Months
-Mushrooms	TEP		No		Yes[11/]	18 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

Data Requirement	Test Substance[1]/	Use Patterns	Does EPA Have Data?	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission
§158.125 Residue Chemistry - Continued						
- Postharvest treatment of fruits and vegetables						
- apples, blackberries, blueberries, boysenberries, cherries, crabapples, currancs, dewberries, grapes, muskmelons, oranges, peaches, pears, pineapples, plums, and raspberries	TEP		No		Yes[12]/	18 months
- figs, gooseberries, guavas, loganberries, mangoes, and tomatoes	TEP		No		Yes[13]	18 months
- Stored commodities						
- barley, corn, oats, rye, sorghum, and wheat	TEP		No		Yes[14]	18 months
- dried fruit	TEP		No		Yes[15]	18 months
- stored foods	TEP		No		Yes[16]	18 months
- Processing Studies						
- apples, oranges, sorghum, sugarcane tomatoes	EP		No		Yes[17]	24 months

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

Data Requirement	Test Substance[1/]	Use Patterns	Does EPA Have Data?	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission
§158.125 Residue Chemistry - Continued						
- grapes, pineapples, plums	EP		No		Yes[18]	24 months
- field corn and wheat	EP		No		Yes[19]	24 months
- Meat/milk/poultry/eggs	TGAI or Plant Metabolites		No		Yes[20]	18 months
- Food handling	EP		No		Yes[21,22]	12 month

1/ Test Substance: TGAI = Technical grade of the active ingredient; PAIRA = Pure active ingredient, radiolabeled; TEP = Typical end-use product; EP = end-use product.

2/ Due dates refer to the number of months following issuance of this Registration Standard, unless otherwise indicated.

3/ Refer to Product Chemistry Data Requirement tables.

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

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§158.125 Residue Chemistry - Continued

4/ The uptake, distribution, and metabolism of [^{14}C] allethrin in a tree fruit crop (pome, stone, or citrus), a legum or fruiting vegetable (beans or tomatoes) and a leafy or brassica leafy vegetable (lettuce or cabbage). [^{14}C] allethrin (004001 - mixture of eight isomers) must be applied foliarly several times up to and including the day of harvest at rates sufficiently high to permit complete characterization of ^{14}C-residues. The identities and quantities of residues in or on mature plant parts must be determined in order to elucidate terminal residues. Representative samples from these tests must also be analyzed by enforcement methods to ascertain that the methods are adequately capable of quantifying all residues of concern. To avoid unnecessary expense and repetition of residue tests (field trials, processing studies, postharvest use trials, and food handling establishment use tests), It is recommended that the required plant metabolism data be submitted for review prior to initiation of residue trials.

5/ Metabolism studies utilizing ruminants and poultry. Animals must be dosed orally for a minimum of 3 days with [^{14}C] allethrin (004001 - a mixture of eight isomers) at a level sufficient to make residue identification and quantification in tissues and milk possible. Milk and eggs must be collected twice a day during the dosing period. Animals must be sacrificed within 24 hours of the final dose. The distribution and characterization of residues must be determined in milk, eggs, liver, kidney, muscle, and fat.

6/ Metabolism studies using cattle, poultry and swine reflecting direct animal treatment. These data are needed because allethrin (004001) is registered for use as a space spray in farm animal quarters and as a direct treatment to horses, and bioallethrin (004003) is registered for use as a space spray in milking houses. Animals must be sprayed daily for 28 days using [^{14}C]allethrin (004001 - a mixture of eight isomers) at a rate sufficiently high to permit complete characterization of ^{14}C-residues and sacrificed within one day of the final application. ^{14}C-Residues must be quantified and characterized in muscle, fat, liver, kidney, milk and eggs. Eggs and milk must be collected twice daily throughout the treatment period.

7/ Additional residue and validation data and appropriate methods may be required if requested metabolism/degradation studies reveal additional metabolites of of toxicological concern. All residue data submitted in response to this Standard must be accompanied by a description of the analytical method used and method validation data (sensitivity, accuracy, and precision).

8/ All residue data requested in this Standard must be accomplished by information specifying the storage intervals and conditions for samples analyzed. Data must also be submitted depicting the storage stability of the residues of concern under the same conditions and time intervals specified. In laboratory tests using fortified samples, the pure active ingredient and pure metabolites (if necessary) must be used. However, if field weathered samples are used, the test substance must be a typical end-use product.

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

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§158.125 Residue Chemistry - Continued

9/ Data depicting allethrin residues of concern in or on (i) greenhouse and field grown snap beans, dry beans and bean vines (field-grown only), broccoli, cabbage, collards, lettuce (leaf and head - with and without wrapper leaves), radishes, and tomatoes harvested immediately after the last of multiple foliar treatments of the 2.5% EC formulation at 36 fl. oz. product/100 gal water/A; (ii) apples, oranges and peaches harvested immediately after the last of multiple foliar treatments of the 1% EC formulation at 1 quart product/A using both high and low (2 gal/A) volume ground equipment in separate tests; (iii) celery and horseradish harvested immediately after the last of multiple foliar treatments of the 1% EC formulation at 1.5 pints product/A in 1 gal water/A and; to support a FL 24(c) label (FL780061), (iv) alfalfa forage and hay, cucumbers, melons, summer squash, potatoes, grain sorghum (grain, forage, fodder, silage and hay), sweet sorghum (seed, forage, and fodder), and sugarcane (cane and forage) harvested one day after multiple foliar applications, made at 5-day intervals, of the 0.9% EC formulation at 2 pints product/A in 1 gal. water/A. A maximum number of applications per season must be proposed for all uses and reflected in the submitted data. Tests must be conducted in states that represent the major growing regions for each crop according to the latest edition Agriculture Statistics (USDA) or the Census of Agriculture (U.S. Dept. of Commerce), except to support the FL 24(c) label (tests need be conducted in FL only). [The data requested here for apples, broccoli, lettuce, collards, tomatoes, radishes, alfalfa, and beans will be used to predict residues in or on pears, Brussels sprouts, cauliflower, kohlrabi, endive, kale, mustard greens, parsley, spinach, peppers, rutabagas, turnips, clover, and peas.] A tolerance proposal is required for each of these commodities. On receipt of these data/tolerance proposals, the exemption from the requirement of tolerances for these commodities will be revoked.

10/ The Registrant(s) must propose a preharvest use on Jerusalem artichokes, sugar beets, carrots, chicory, corn (sweet and field), garlic, leeks, onions, parsnips, salsify, shallots, and sweet potatoes accompanied by appropriate residue data (currently, an entry exists in 40 CFR 180.1002 for these commodities but no registered uses exist). Processing studies must be submitted for field corn (crude and refined oil, grain dust, and milling products (starch, grits,meal,flour), and sugar beets (dehydrated pulp, molasses and refined sugar). If the rate proposed (i) on Jerusalem artichokes and sweet potatoes is no higher than on radishes, no residue data for these crops need be submitted (processing data would still be required). Also, if the uses proposed on garlic, leeks, onions, and shallots are identical, data need be submitted only for onions (bulb and green). Appropriate tolerances must be proposed. If these data/tolerance proposals are not submitted (no use desired) or on receipt of the data/tolerance proposals, the exemption from the requirement of tolerances for these commodities will be revoked (40 CFR 180.1002)

11/ Data depicting allethrin residues of concern in or on mushrooms grown in mushroom houses in which multiple premise treatments have been made with the 1.25% finished spray. A maximum number of applications must be proposed and supporting data submitted. An appropriate tolerance must be proposed. On receipt of the data and a tolerance proposal, the exemption from the requirement of a tolerance for mushrooms will be revoked.

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

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§158.125 Residue Chemistry - Continued

12/ Data deplicting allethrin residues of concern in or on apples, blackberries, plums, blueberries, grapes, muskmelons, oranges, peaches, and pineapples. Samples must be taken (in separate tests) immediately following a 0.012% emulsion dip treatment with the 2.5% EC formulation. [Data required for apples, blackberries, blueberries, and plums will be used to predict residues in or on boysenberries, dewberries, raspberries, pears, crabapples, cherries and currants.]

13/ The Registrant(s) must propose a postharvest use on figs, gooseberries, guavas, loganberries, mangoes, and tomatoes accompanied by residue data in support of the established tolerances for residues in or on these commodities. Processing data must be submitted for figs (dried figs). If the rate proposed on gooseberries and loganberries is no higher than that registered for use on blueberries and blackberries, then no residue data for gooseberries or loganberries need be submitted. If these data and/or proposed uses are not submitted, the tolerances for allethrin residues in/on the crops will be revoked.

14/ Data depicting allethrin residues of concern in or on corn and wheat treated with an EC, SC/L, and RTU formulation in separate tests at 5 gal/1,000 bu (0.5% finished spray) in such a way that the grain will be tumbled and mixed before it enters the storage bin. The surface of the binned grain must also be treated with the same formulations (in separate tests) at 1 gal/1,000 sq. ft of grain (0.5% finished spray every 30 days from the time of storage until early fall). The storage bin must have a surface application of the 15% EC at 1 gal/750 sq.ft. just prior to the storage of grain. Samples must be collected on the day they enter the storage bin and on the day of the last surface treatment in early fall. [Required data for corn and wheat will be used to predict residues in or on grain sorghum, oats, rye, and barley.]

15/ Data depicting allethrin residues of concern in or on dried fruit (dried apples, prunes, raisins, bananas, figs, dates) sampled immediately following treatment with a 5% SC/L at 1 fl. oz/1000 cu ft and a 0.326% RTU at 1 gal/50,000 cu ft (in separate tests). These formulations are to be discharged as a fine mist above dried fruit. The registrant(s) must propose an appropriate tolerance for allethrin residues in stored dried fruit.

16/ Data depicting allethrin residues of concern in representative raw agricultural commodities (dried beans, cocoa beans, coffee beans, corn, nuts, peanuts, and soybeans) collected immediately following an indoor space spray with the 5% SC/L and a RTU formulation at 1 fl. oz/1000 cu ft. The registrant(s) must propose an appropriate tolerance for allethrin residues in stored raw agricultural commodities.

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

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§158.125 Residue Chemistry - Continued

17/ Data depicting allethrin residues of concern in the following processed commodities obtained from raw agricultural commodities bearing measurable field-weathered residues: wet and dry pomace and juice from apples; dried pulp, oil molasses, and juice from oranges; flour, starch and grain dust from grain sorghum; syrup from sweet sorghum; molasses, refined sugar, and bagasse from sugarcane; and wet and dry pomace, puree, catsup, and juice from tomatoes. If residues concentrate, appropriate food/feed additive tolerances must be proposed.

18/ Data depicting allethrin residues of concern in the following processed commodities obtained from postharvest-treated raw agricultural commodities: raisins, wet and dry pomace, raisin waste and juice from grapes; bran and juice from pineapples; and dried prunes from plums. If residues concentrate in these processed commodities, appropriate food/feed additive tolerances must be proposed.

19/ Data depicting allethrin residues of concern in grain dust and milled products of field corn and wheat (including the wet milled products of corn - starch, crude oil and refined oils, dry milled products of corn - grits, meal, flour, crude and refined oils; and bran, flour middlings and shorts of wheat). Sample millings must be processed from grain bearing measurable weathered residues from postharvest treatments. If concentration occurs, appropriate food/feed additive tolerances must be proposed.

20/ Data requirements regarding the magnitude of residues in animal products will not be determined until all requested data regarding metabolism in animals and magnitude of residues in feed items have been received.

21/ Data depicting residues of concern in food products resulting from applications of allethrin in food service, food manufacturing, and food processing establishments (two representative types of each food handling establishment as listed in Table 1 of Subdivision O [Residue Chemistry] of Pesticide Assessment Guidelines). Tests are required in these establishments utilizing an SC/L and RTU formulation as a general contact spray and space spray (in separate tests) in 12.5% ai finished spray. Tests conducted must be representative examples of worst-case scenarios for potential residue contamination of food products which include the following; (i) particulate aerosol contact with packaged products or unwrapped fresh produce present at the time of treatment; (ii) contact of packaged foods with treated surfaces, such as flour sacks stacked on treated floor surfaces in storage areas; (iii) accidental treatment of food work surfaces and subsequent contact of food before surfaces are cleaned; (iv) treatment occurring near stacks of new or cleaned product containers that are filled without being cleaned; and (v) tracking of residues by insects or rodents from treated areas to food or food contact surfaces. Exposure situations in grocery stores and restaurants must include a representative range of foods such as oily foods, baked cereal products, raw and cooked meats, and fresh fruits and vegetables.

22/ The registrant(s) must propose a tolerance for residues of bioallethrin in food/feed exposed during or following treatment of food/feed handling establishments.

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, AND ESBIOTHRIN
Tier I Testing[1,2,3/] using radiolabeled DTofD and DTofL

Data Requirement	Test Substance[4]	Use Patterns	Does EPA Have Data?	Bibliograhic Citation	Must Additional Date Be Submitted?	Timeframe for Submission
§158.130 Environmental Fate						
DEGRADATION STUDIES-LAB:						
161-1 - Hydrolysis	PAIRA	A,B,D,E,F,H	No		Yes	9 Months
Photodegradation						
161-2 - In Water	PAIRA	A,B,D,	No		Yes	9 Months
161-3 - On Soil	PAIRA	A	No		Yes	9 Months
161-4 - In Air	PAIRA	A,E,F,I	No		Yes	9 Months
METABOLISM STUDIES-LAB:						
162-1 - Aerobic Soil	PAIRA	A,B,E,F,H	No		Yes	27 Months
162-2 - Anaerobic Soil	PAIRA	A,B,E,F,H	No		Yes	27 Months
162-4 - Aerobic Aquatic	PAIRA	D	No		Yes	27 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, AND ESBIOTHRIN Tier I Testing[1,2,3]/ using radiolabelled DTofD and DTofL

Data Requirement	Test Substance[4]	Use Patterns	Does EPA Have Data?	Bibliograhic Citation	Must Additional Date Be Submitted?	Timeframe for Submission
§158.130 Environmental Fate						
MOBILITY STUDIES:						
163-1 - Leaching and Adsorption/Desorption	PAIRA	A,B,D,E,F,H	No		Yes	12 Months
163-2 - Volatility (Lab)	PAIRA	A,E,F,I	No		Yes	12 Months

1/ Only data noted in this table are being required under Tier I to support §158.130 requirements.

2/ No data requirements for either §158.140 (Reentry Protection) or §158.142 (Spray Drift) are being imposed for Tier I in this Standard.

3/Additional data requirements may be imposed for Tier II based on the results of Tier I testing.

4/ PAIRA = Pure Active Ingredient, Radiolabelled (both D-Trans chrysanthemic acid of D-allethrolone (DTofD) and D-Trans chrysanthemic acid of L-allethrolone (DTofL) must tested).

TABLE A
GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

Data Requirement	Test Substance1/	Use Patterns	Does EPA Have Data?	Bibliographic Citation1/	Must Additional Data be Submitted	Time Frame for Submission
§158.135 Toxicology						
ACUTE TESTING:						
81-1 - Acute Oral Toxicity - Rat	TGAI (1,2)	A,B,D,E,F,G,H,I	Partially	00151444(3) 00151460(4) 00154449(5)	Yes	9 Months
81-2 - Acute Dermal Toxicity - Rabbit	TGAI (1,2,3,4)	A,B,D,E,F,G,H,I	Partially	00151451(5)	Yes	9 Months
81-3 - Acute Inhalation Toxicity - Rat	TGAI (All)	A,B,D,E,F,G,H,I	Partially	00151452(5)	Yes2/	9 Months
81-4 - Eye Irritation - Rabbit	TGAI (1,2,3,4)	A,B,D,E,F,G,H,I	Partially	00151454(5) 00151466(4)	Yes3/	9 Months
81-5 - Dermal Irritation - Rabbit	TGAI (1,2,3,4)	A,B,D,E,F,G,H,I	Partially	00151453(5)	Yes	9 Months
81-6 - Dermal Sensitization - Guinea Pig	TGAI (All)	A,B,D,E,F,G,H,I	No		Yes	9 Months
81-7 - Delayed Neurotoxicity - Hen	TGAI	A,B,D,E,F,G,H,I	No		No4/	
SUBCHRONIC TESTING:						
82-1 - 90-Day Feeding: - Rodent, and	TGAI (1,3,4,5)	A,B,D,E,F,G,H,I	Partially	00122492(3)	Yes5/6/	15 Months
- Non-rodent (Dog)	(1,2,4,5)	A,B,D,E,F,G,H,I	Partially	00151447(3)	Yes7/8/	18 Months
82-2 - 21-Day Dermal - Rabbit	TGAI (All)	A,B,D,E,F,G,H,I	No		Yes	12 Months

TABLE A
GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data?	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission
§158.135 Toxicology - Continued						
82-3 - 90-Day Dermal - Rabbit	TGAI	A,B,D,E,F,G,H,I,	No		No9/	
82-4 - 90-Day Inhalation: - Rat	TGAI (All)	(Reserved)10/			(Reserved)10/	
82-5 - 90-Day Neurotoxicity: - Hen	TGAI	A,B,D,E,F,G,H,I	No		No11/	
CHRONIC TESTING: 12/						
83-1 - Chronic Toxicity - 2 species:						
- Rodent, and	TGAI (1,3,4,5)	A,B,D,E,F,G,H,I	Partially	00157916(2)	Yes13/	11 Months
- Non-rodent (Dog)	(1,2,4,5)	A,B,D,E,F,G,H,I	Partially	00151447(3)	Yes13/14/	11 Months
83-2 - Oncogenicity - 2 species:						
- Rat (preferred), and	TGAI (1,3,4,5)	A,B,D,E,F,G,H,I	Partially	00157916(2)	Yes13/	11 Months
- Mouse (preferred)	TGAI (All)	A,B,D,E,F,G,H,I,	No		Yes13/	11 Months
83-3 - Teratogenicity - 2 species:						
- Rat	TGAI (1,2,4,5)	A,B,D,E,F,G,H,I	Partially	00078624(3)	Yes	15 Months
- Rabbit	TGAI (All)	A,B,D,E,F,G,H,I	No		Yes	15 Months

TABLE A
GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

Data Requirement	Test Substance	Use Pattern	Does EPA Have Data?	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission
§158.135 Toxicology - Continued						
CHRONIC TESTING - Continued						
83-4 - Reproduction - Rat 2-generation	TGAI (All)	A,B,D,E,F,G,H,I	No		Yes13/	11 Months
MUTAGENICITY TESTING						
84-2 - Gene Mutation (Ames Test)	TGAI (1,2,4)	A,B,D,E,F,G,H,I	Partially	00133570(3) 00151455(5) 00151457(5)	Yes	9 Months
84-2 - Structural Chromosomal Aberration	TGAI (All)	A,B,D,E,F,G,H,I	Partially	00133570(3)	Yes15/	12 Months
84-4 - Other Genotoxic Effects	TGAI (1,2,4,5)	A,B,D,E,F,G,H,I	Partially	00133570(3)	Yes	12 Months
SPECIAL TESTING						
85-1 - General Metabolism	PAI or PAIRA (All)	A,B,D,E,F,G,H,I	No		Yes	24 Months

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1/ Column two "Test Substance" identifies the grade of the test substance (e.g., TGAI, PAI, etc.). This column also identifies in parenthesis the compounds which are required to be tested. Column four "Bibliographic Citation" identifies in parenthesis which compound the citation applies to. The allethrin compounds are designated by the following numerical codes: 1 -- Allethrin; 2 -- D-cis/trans allethrin; 3 -- Bioallethrin; 4 -- S-bioallethrin; and 5 -- Esbiothrin.

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

§158.135 Toxicology - Continued

2/ A supplementary study on Esbiothrin may be upgraded if the data can be recalculated using both dose groups 3 and 4 and if the LC_{50} values are calculated for males and females separately.

3/ A supplementary study for S-bioallethrin may be upgraded if the effects observed are scored according to accepted scoring practices.

4/ These data are not required since the test articles are not organophosphates.

5/ The available study for bioallethrin may be upgraded if the summary tables for histopathology results are provided. The tables should contain the number of tissues examined and the number of lesions observed for each tissue examined.

6/ Subchronic feeding data on technical Allethrin, Bioallethrin, S-bioallethrin and Esbiothrin need not be submitted if chronic feeding studies in the rat are submitted for these compounds. However, it should be noted that subchronic studies are useful and often necessary in determining the maximum tolerated dose (MTD) for oncogenicity studies in rodents. If a chronic study on Esbiothrin is submitted in order to fulfill the requirements for chronic data on Bioallethrin and S-bioallethrin, then subchronic feeding studies on technical Bioallethrin and S-bioallethrin are required (see footnote 13).

7/ A subchronic non-rodent feeding study is not required for Bioallethrin since an acceptable chronic dog feeding study has been submitted.

8/ Subchronic feeding data in a nonrodent species on technical Allethrin, D-cis/trans allethrin, S-bioallethrin, and Esbiothrin need not be submitted if chronic studies are submitted for these compounds. If a chronic feeding study in a nonrodent species conducted on Esbiothrin is submitted in order to fulfill the requirements for chronic data on a nonrodent species for on S-bioallethrin, then a subchronic feeding study in a nonrodent species for S-bioallethrin will be required (see footnote 13).

9/ 90-day dermal studies are not required for these use patterns.

10/ This requirement is reserved pending receipt and review of the exposure assessment for these chemicals.

11/ This study is not required because the acute toxicity studies in the hen are not required.

TABLE A
GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, AND ESBIOTHRIN

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§158.135 Toxicology - Continued

12/ Registrants who conduct chronic feeding and/or oncogenicity studies should inform the Agency in writing of the dosage levels planned and their reasons for believing that the highest dose approaches or equals the Maximum Tolerated Dose observed in subchronic or range finding studies, and must also consult with the Agency to determine that the appropriate dosage levels are being used in the chronic feeding and/or oncogenicity studies. If EPA subsequently determines that the study was conducted using a dosage rate that was too low to assess long-term effects, the study may be deemed not to satisfy the data requirement.

13/ The Agency has determined that Esbiothrin may serve as the representative test material for fulfilling the data requirements for chronic feeding studies in both rodent and nonrodent species, for oncogenicity studies in two species and for a reproduction study for both Bioallethrin and S-bioallethrin.

14/ An acceptable 6-month dog feeding study fulfills this requirement for Bioallethrin.

15/ A supplementary mouse micronucleus study submitted for Bioallethrin may be upgraded upon submission of data concerning the ratio of PCE's to normochromatic erythrocytes, or some other indication of possible toxicity, and the strain of mouse in the quoted LC_{50} study.

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

Data Requirement	Test Substance	Use Pattern	Does EPA Have Data?	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission^{1}
§158.145 Wildlife and Aquatic Organisms						
AVIAN AND MAMMALIAN TESTING						
71-1 - Acute Avian Oral Toxicity	TGAI	A,B,C,D,E, F,G,H,I	Yes	00160000	No	
71-2 - Avian Dietary LC_{50}	TGAI	A,B,C,D,E,$^{2/}$ F,G,H,I	Yes	00123339 00027547	No	
71-3 - Wild Mammal Toxicity	TGAI	A,B,G	No		No	
71-4 - Avian Reproduction	TGAI	A,B,C,D,G	No		Reserved$^{3/}$	
71-5 - Simulated or Actual Field Testing - - Mammals, and Birds	TEP	A,B,C,D,G,	No		Reserved$^{4/}$	
AQUATIC ORGANISM TESTING						
72-1 - Freshwater Fish Toxicity - Coldwater Fish Species, and	TGAI	A,B,C,D,E,$^{1/}$ F,G,H,I	Yes	40094602	No	
- Warmwater Fish Species	TEP	C,D	No		Reserved$^{3/5/}$	

TABLE A
GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

Data Requirement	Test Substance	Use Pattern	Does EPA Have Data?	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission[1]
§158.145 Wildlife and Aquatic Organisms - Continued						
72-2 - Freshwater Aquatic Invertebrate LC_{50}	TGAI	A,B,C,D,E,	Yes	40094602	No	
	TEP	C,D	No		Reserved[3/5/]	
72-3 - Acute Estuarine and Marine LC_{50}						
- Fish	TGAI	A,B,C,D,G,	No		Reserved[3/6/]	
	TEP	C,D	No		Reserved[3/5/6]	
- Shrimp	TGAI	A,B,C,D,G	No		Reserved[3/6/]	
	TEP	C,D	No		Reserved[3/5/6/]	
- Oyster	TGAI	A,B,C,D,G	No		Reserved[3/6/]	
	TEP	C,D	No		Reserved[3/5/6/]	

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

Data Requirement	Test Substance	Use Pattern	Does EPA Have Data?	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission[1]
§158.145 Wildlife and Aquatic Organisms - Continued						
72-4 - Fish Early Life Stage, and Invertebrate Life Cycle						
- Freshwater	TGAI	A,B,C,D,G F,G,H,I	No		Reserved 3/7/	
	TEP	A,B,C,D,G	No		Reserved 3/7/	
- Estuarine	TGAI	A,B,C,D,G	No		Reserved 3/6/	
	TEP	C,D	No		Reserved 3/5/	
72-5 - Fish Life-Cycle	TGAI	A,B,C,D,G	No		Reserved 3/	
	TEP	A,B,C,D,G	No		Reserved 3/5/	
72-6 - Aquatic Organism Accumulation	TEP	A,B,C,D,G	No		No	
72-7 - Simulated or Actual Field Testing - Aquatic Organisms	TEP	A,B,C,D,G	No		Reserved 3/	

1/ Due dates refer to the number of months following issuance of this Registration Standard, unless otherwise indicated.
2/ Only one species is required.
3/ Reserved pending receipt of the following data: application frequency and timing, environmental stability and and movement of compound.

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

Data Requirement	Test Substance	Use Pattern	Does EPA Have Data?	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission[1]
§158.145 Wildlife and Aquatic Organisms - Continued						

4/ Reserved pending results of avian reproduction study.

5/ Required for aquatic applications and for multiple a.i. formulations for aquatic use.

6/ Required when product is expected to enter estuarine environment in significant concentrations because of use pattern.

7/ Required when aquatic environment is exposed and the fish and aquatic invertebrates LC_{50} is less than 1 mg/L.

TABLE A

GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, AND ESBIOTHRIN

Data Requirement	Test Substance	Use Pattern	Does EPA Have Data?	Bibliographic Citation	Must Additional Data be Submitted?[1]	Time Frame for Submission
§158.155 Nontarget Insect						
NONTARGET INSECT TESTING - POLLINATORS:						
141-1 - Honey bee acute contact toxicity	TGAI	A,B,H	Yes	00060633 00162751	No	
141-2 - Honey bee - toxicity of residues on foliage	TEP	A,B,H	No	00088398	No[2/]	
141-4 - Honey bee subacute feeding study	(Reserved)[3/]					
141-5 - Field testing for pollinators	TEP	A,B,H	No		No	
NONTARGET INSECT TESTING - AQUATIC INSECTS:						
142-1 - Acute toxicity to aquatic insects	(Reserved)[4/]					
142-1 - Aquatic insect life-cycle study	(Reserved)[4/]					
142-3 - Simulated or actual field testing for aquatic insects	(Reserved)[4/]					
143-1 thru 143-3 - NONTARGET INSECT TESTING - PREDATORS AND PARASITES	(Reserved)[4/]					

TABLE A
GENERIC DATA REQUIREMENTS FOR ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, AND ESBIOTHRIN

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§158.155 Nontarget Insect - Continued

1/ No additional data are required to be submitted at this time.
2/ Although allethrin showed moderate bee toxicity in one acute test, outdoor use levels are so low that bee toxicity is not a concern. Thus, resdiual toxicity data will not be required.
3/ Reserved pending development of test methodology.
4/ Reserved pending Agency decision as to whether the data requirement should be established.

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, AND ESBIOTHRIN

Data Requirement	Test Substance[1]	Use Pattern	Does EPA Have Data?[2]	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission[3]
§158.120 Product Chemistry						
Product Identity:						
61-1 - Product Identity and Disclosure of Ingredients	MP	All	No	N/A	Yes[4]	6 Months
61-2 - Description of Beginning Materials and Manufacturing Process	MP	All	No	N/A	Yes[5]	6 Months
61-3 - Discussion of Formation of Impurities	MP	All	No	N/A	Yes[6]	6 Months
Analysis and Certification of Product Ingredients						
62-1 - Preliminary Analysis	MP	All	No	N/A	Yes[7]	12 Months
62-2 - Certification of Limits	MP	All	No	N/A	Yes[8]	12 Months
62-3 - Analytical Methods to Verify Certified Limit	MP	All	No	N/A	Yes[9]	12 Months
Physical and Chemical Characteristics						
63-2 - Color	MP	All	No	N/A	Yes[10]	6 Months
63-3 - Physical State	MP	All	No	N/A	Yes[10]	6 Months
63-4 - Odor	MP	All	No	N/A	Yes[10]	6 Months

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, AND ESBIOTHRIN

Data Requirement	Test Substance[1]	Use Pattern	Does EPA Have Data?[2]	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission[3]
§158.120 Product Chemistry (Continued)						
Physical and Chemical Characteristics (Continued)						
63-7 - Density, Bulk Density, or Specific Gravity	MP	All	No	N/A	Yes[10]	6 Months
63-12 - pH	MP	All	No	N/A	Yes[10,11]	6 Months
63-14 - Oxidizing or Reducing Action	MP	All	No	N/A	Yes[10,12]	6 Months
63-15 - Flammability	MP	All	No	N/A	Yes[10,13]	6 Months
63-16 - Explodability	MP	All	No	N/A	Yes[10,14]	6 Months
63-17 - Storage Stability	MP	All	No	N/A	Yes[10]	15 Months
63-18 - Viscosity	MP	All	No	N/A	Yes[10,15]	6 Months
63-19 - Miscibility	MP	All	No	N/A	Yes[10,16]	6 Months
63-20 - Corrosion Characteristics	MP	All	No	N/A	Yes[10]	15 Months
Other Requirements:						
64- 1 - Submittal of samples	MP	All	N/A	N/A	No	

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, AND ESBIOTHRIN

Data Requirement	Test Substance[1]	Use Pattern	Does EPA Have Data?[2]	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission[3]
§158.120 Product Chemistry (Continued)						

1/ Composition: MP = Manufacturing Use Product ; Note, that separate Product Chemistry Data must be submitted for each manufacturing use product covered by this Standard.

2/ Not applicable. Although product chemistry data may have been submitted in the past, the Agency has determined that these data must be resubmitted for each manufacturing use product. New requirements have been introduced and previously submitted data must be updated. Therefore bibliographic citations for the old data are not applicable.

3/ Due dates refer to the number of months following issuance of the Registration Standard, unless otherwise indicated.

4/ The chemical name and nominal concentration of each impurity for which a certified limit is required must be submitted. In addition, the chemical name, nominal concentration, Chemical Abstract (CAS) Registry Number, and purpose of the active ingredient and each intentionally added inert must be provided. For the active ingredient, the following must also be provided: the product name, trade name, and common name; the molecular, structural, and empirical formulas; the molecular weight range; and any experimental or internally assigned company code numbers.

5/ Complete information must be provided regarding the nature of the process (batch or continuous), the relative amounts of beginning materials and the order in which they are added, the chemical equations for each intended reaction, equipment used to produce each intermediate and final product, reaction conditions, the duration of each step of the process, purification procedures, and quality control measures. In addition, the name and address of the manufacturer, producer, or supplier of each beginning material must be provided, along with information regarding the properties of each beginning material used to manufacture each product.

6/ A detailed discussion of all impurities that are or may be present at $\geq 0.1\%$, based on knowledge of the beginning materials, chemical reactions (intended and side) in the manufacturing process, and any contamination during and after production must be submitted.

7/ Five or more representative samples must be analyzed for the amount of active ingredient and each impurity for which a certified limit is required. Complete validation data (accuracy, precision) must be submitted for each analytical method used.

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, AND ESBIOTHRIN

Data Requirement	Test Substance[1]	Use Pattern	Does EPA Have Data?[2]	Bibliographic Citation[2]	Must Additional Data be Submitted?	Time Frame for Submission[3]
§158.120 Product Chemistry (Continued)						

8/ Upper and lower limits for the active ingredient and each intentionally added inert, and upper limits for each impurity present at $\geq$0.1% (w/w) and each "toxicologically significant" impurity at <0.1% (w/w) must be provided, certified, and validated by sample analysis using analytical procedures for which the accuracy and precision data have been provided. Limits for impurities not associated with the active ingredient need be provided only if they are considered to be of toxicological significance, regardless of the concentration at which they are present. Certifications must be submitted on EPA Form 8570 Rev. 2-85.

9/ Analytical methods must be provided to determine the active ingredient, and each toxicologically significant impurity and intentionally added inert for which certified limits are required. Each must be accompaned by validation studies indicating its accuracy and precision. These methods must be suitable for enforcement of certified limits.

10/ Physicochemical characteristics (color, physical state, odor, specific gravity, pH, oxidizing or reducing action, flammability, explodability, storage stability, viscosity, miscibility, and corrosion characteristics) as required in 40 CFR 158.120 and more fully described in the Pesticide Assessment Guidelines, Subdivision D must be submitted.

11/ Required if the test substance is dispersible with water.

12/ Required if the product contains an oxidizing or reducing agent.

13/ Required if the product contains combustible liquids.

14/ Required if the product is potentially explosive.

15/ Required if the product is a liquid.

16/ Required if the product is a liquid and is to be diluted with petroleum solvents.

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING ALLETHRIN, D-CIS/TRANS ALLETHRIN, BIOALLETHRIN, S-BIOALLETHRIN, ESBIOTHRIN

Data Requirement	Test Substance[1]	Use Pattern	Does EPA Have Data?	Bibliographic Citation	Must Additional Data be Submitted?	Time Frame for Submission[2]
§158.135 Toxicology						
ACUTE TESTING:						
81-1 - Acute Oral - Rat	MP		No	-	Yes	9 Months
81-2 - Acute Dermal	MP		No	-	Yes	9 Months
81-3 - Acute Inhalation - Rat	MP		No	-	Yes	9 Months
81-4 - Eye Irritation - Rabbit	MP		No	-	Yes	9 Months
81-5 - Dermal Irritation - Rabbit	MP		No	-	Yes	9 Months
81-6 - Dermal Sensitization - Guinea Pig	MP		No	-	Yes	9 Months

1/ Composition: MP= Manufacturing-use product.

2/ Due dates refer to the number of months following issuance of this Registration Standard unless otherwise noted.

APPENDIX II

LABELING APPENDICES

LABEL CONTENTS

Section 162.10 of Title 40 of the Code of Federal Regulations (40 CFR) requires that certain specific labeling statements appear at certain locations on the label. This is referred to as format labeling. Specific label items listed below are keyed to the table at the end of this Appendix.

Item 1. PRODUCT NAME - The name, brand or trademark is required to be located on the front panel, preferably centered in the upper part of the panel. The name of a product will not be accepted if it is false or misleading.

Item 2. COMPANY NAME AND ADDRESS - The name and address of the registrant or distributor is required on the label. The name and address should preferably be located at the bottom of the front panel or at the end of the label text.

Item 3. NET CONTENTS - A net contents statement is required on all labels or on the container of the pesticide. The preferred location is the bottom of the front panel immediately above the company name and address, or at the end of the label text. The net contents must be expressed in the largest suitable unit, e.g., "1 pound 10 ounces" rather than "26 ounces." In addition to English units, net contents may be expressed in metric units. [40 CFR 162.10(d)]

Item 4. EPA REGISTRATION NUMBER - The registration number assigned to the pesticide product must appear on the label, preceded by the phrase "EPA Registration No." or "EPA Reg. No." The registration number must be set in type of a size and style similar to other print on that part of the label on which it appears and must run parallel to it. The registration number and the required identifying phrase must not appear in such a manner as to suggest or imply recommendation or endorsement of the product by the Agency. [40 CFR 162.10(e)]

Item 5. EPA ESTABLISHMENT NUMBER - The EPA establishment number, preceded by the phrase "EPA Est. No." is the final establishment at which the product was produced, and may appear in any suitable location on the label or immediate container. It must also appear on the wrapper or outside container of the package if the EPA establishment number on the immediate container cannot be clearly read through such wrapper or container. [40 CFR 162.10(f)]

Item 6A. INGREDIENTS STATEMENT - An ingredients statement is required on the front panel. The ingredients statement must contain the name and percentage by weight of each active ingredient and the total percentage by weight of all inert ingredients. The preferred location is immediately below the product name. The ingredients statement must run parallel with, and be clearly distinguished from, other text on the panel. It must not be placed in the body of other text. [40 CFR 162.10(g)]

Item 6B. POUNDS PER GALLON STATEMENT - For liquid agricultural formulations, the pounds per gallon of active ingredient must be indicated on the label.

ITEM 7. FRONT LABEL PRECAUTIONARY STATEMENTS - Front panel precautionary statements must be grouped together, preferably within a block outline. The table below shows the minimum type size requirements for various size labels.

Size of Label on Front Panel in Square Inches	Signal Word Minimum Type Size All Capitals	"Keep Out of Reach of Children" Minimum Type Size
5 and under	6 point	6 point
above 5 to 10	10 point	6 point
above 10 to 15	12 point	8 point
above 15 to 30	14 point	10 point
over 30	18 point	12 point

Item 7A. CHILD HAZARD WARNING STATEMENT - The statement KEEP OUT OF REACH OF CHILDREN must be located on the front panel above the signal word except where contact with children during distribution or use is unlikely. [40 CFR 162.10(h)(1)(ii)]

Item 7B. SIGNAL WORD - The signal word (DANGER, WARNING, or CAUTION) is required on the front panel immediately below the child hazard warning statement. [40 CFR 162.10(h)(1)(i)]

Item 7C. SKULL AND CROSSBONES AND WORD "POISON" - On products assigned a Toxicity Category I on the basis of oral, dermal, or inhalation toxicity, the word "Poison" shall appear on the label in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word POISON. [40 CFR 162.10(h)(1)(i)]

Item 7D. STATEMENT OF PRACTICAL TREATMENT - A statement of practical treatment (first aid or other) shall appear on the label of pesticide products in Toxicity Categories I, II, and III. [40 CFR 162.10(h)(1)(iii)]

Item 7E. REFERRAL STATEMENT - The statement "See Side (or Back) Panel for Additional Precautionary Statements" is required on the front panel for all products, unless all required precautionary statements appear on the front panel. [40 CFR 162.10(h)(1)(iii)]

Item 8. SIDE/BACK PANEL PRECAUTIONARY LABELING - The precautionary statements listed below must appear together on the label under the heading "PRECAUTIONARY STATEMENTS." The preferred location is at the top of the side or back panel preceding the directions for use, and it is preferred that these statements be surrounded by a block outline. Each of the three hazard warning statements must be headed by the appropriate hazard title. [40 CFR 162.10(h)(2)].

Item 8A. HAZARDS TO HUMANS AND DOMESTIC ANIMALS - Where a hazard exists to humans or domestic animals, precautionary statements are required indicating the particular hazard, the route(s) of exposure, and the precautions to be taken to avoid accident, injury, or damage. [40 CFR 162.10(h)(2)(i)]

Item 8B. ENVIRONMENTAL HAZARD - Where a hazard exists to nontarget organisms excluding humans and domestic animals, precautionary statements are required stating the nature of the hazard and the appropriate precautions to avoid potential accident, injury, or damage. [40 CFR 162.10(h)(2)(ii)]

Item 8C. PHYSICAL OR CHEMICAL HAZARD - FLAMMABILITY - Precautionary statements relating to flammability of a product are required to appear on the label if it meets the criteria in the PHYS/CHEM Labeling Appendix. The requirement is based on the results on the flashpoint determinations and flame extension tests required to be submitted for all products. These statements are to be located in the side/back panel precautionary statements section, preceded by the heading "Physical/Chemical Hazards." Note that no signal word is used in conjunction with the flammability statements.

Item 9A. RESTRICTED USE CLASSIFICATION - FIFRA section 3(d) requires that all pesticide formulations/uses be classified for either general or restricted use. Products classified for restricted use may be limited to use by certified applicators or persons under their direct supervision (or may be subject to other restrictions that may be imposed by regulation).

In the Registration Standard, the Agency has (1) indicated certain formulations/uses are to be restricted (Section IV indicates why the product has been classified for restricted use); or (2) reserved any classification decision until appropriate data are submitted.

The Regulatory Position and Rationale states whether products containing this active ingredient are classified for restricted use. If they are restricted the draft label(s) submitted to the Agency as part of your application must reflect this determination (see below).

If you do not believe that your product should be classified for restricted use, you must submit any information and rationale with your application for reregistration. During the Agency's review of your application, your proposed classification determination will be evaluated in accordance with the provisions of 40 CFR 162.11(c). You will be notified of the Agency's classification decision.

Classification Labeling Requirements

If your product has been classified for restricted use, the following label requirements apply:

1. All uses restricted.

a. The statement "Restriction Use Pesticide" must appear at the top of the front panel of the label. The statement must be set in type of the same minimum size as required for human hazard signal word (see table in 40 CFR 162.10(h)(1)(iv).

b. Directly below this statement on the front panel, a summary statement of the terms of restriction must appear (including the reasons for restrictions if specified in Section I). If use is restricted to certified applicators, the following statement is required: "For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's Certification."

2. Some but not all uses restricted. If the Regulatory Position and Rationale states that some uses are classified for restricted use, and some are unclassified, several courses of action are available:

a. You may label the product for Restricted Use. If you do so, you may include on the label uses that are unrestricted, but you may not distinguish them on the label as being unrestricted.

b. You may delete all restricted uses from your label and submit draft labeling bearing only unrestricted uses.

c. You may "split" your registration, i.e., register two separate products with identical formulations, one bearing only unrestricted uses, and the other bearing restricted uses. To do so, submit two applications for reregistration, each containing all forms and necessary labels. Both applications should be submitted simultaneously. Note that the products will be assigned separate registration numbers.

Item 9b. MISUSE STATEMENT - All products must bear the misuse statement, "It is a violation of Federal law to use this product in a manner inconsistent with its labeling." This statement appears at the beginning of the directions for use, directly beneath the heading of that section.

Item 10A. REENTRY STATEMENT - If a reentry interval has been established by the Agency, it must be included on the label. Additional worker protection statements may be required in accordance with PR Notice 83-2, March 29, 1983.

Item 10B. STORAGE AND DISPOSAL BLOCK - All labels are required to bear storage and disposal statements. These statements are developed for specific containers, sizes, and chemical content. These instructions must be grouped and appear under the heading "Storage and Disposal" in the directions for use. This heading must be set in the same type sizes as required for the child hazard warning. Refer to Appendix II, STOR, PEST/DIS, and CONT/DIS to determine the storage and disposal instructions appropriate for your products.

Item 10C. DIRECTIONS FOR USE - Directions for use must be stated in terms which can be easily read and understood by the average person likely to use or to supervise the use of the pesticide. When followed, directions must be adequate to protect the public from fraud and from personal injury and to prevent unreasonable adverse effects on the environment. [40 CFR 162.10]

COLLATERAL LABELING

Bulletins, leaflets, circulars, brochures, data sheets, flyers, or other written or graphic printed matter which are referred to on the label or which are to accompany the product are termed collateral labeling. Such labeling may not bear claims or representations that differ in substance from those accepted in connection with registration of the product, and it should be made part of the response to this Notice and submitted for review.

LABELING REQUIREMENTS OF FIFRA, AS AMENDED

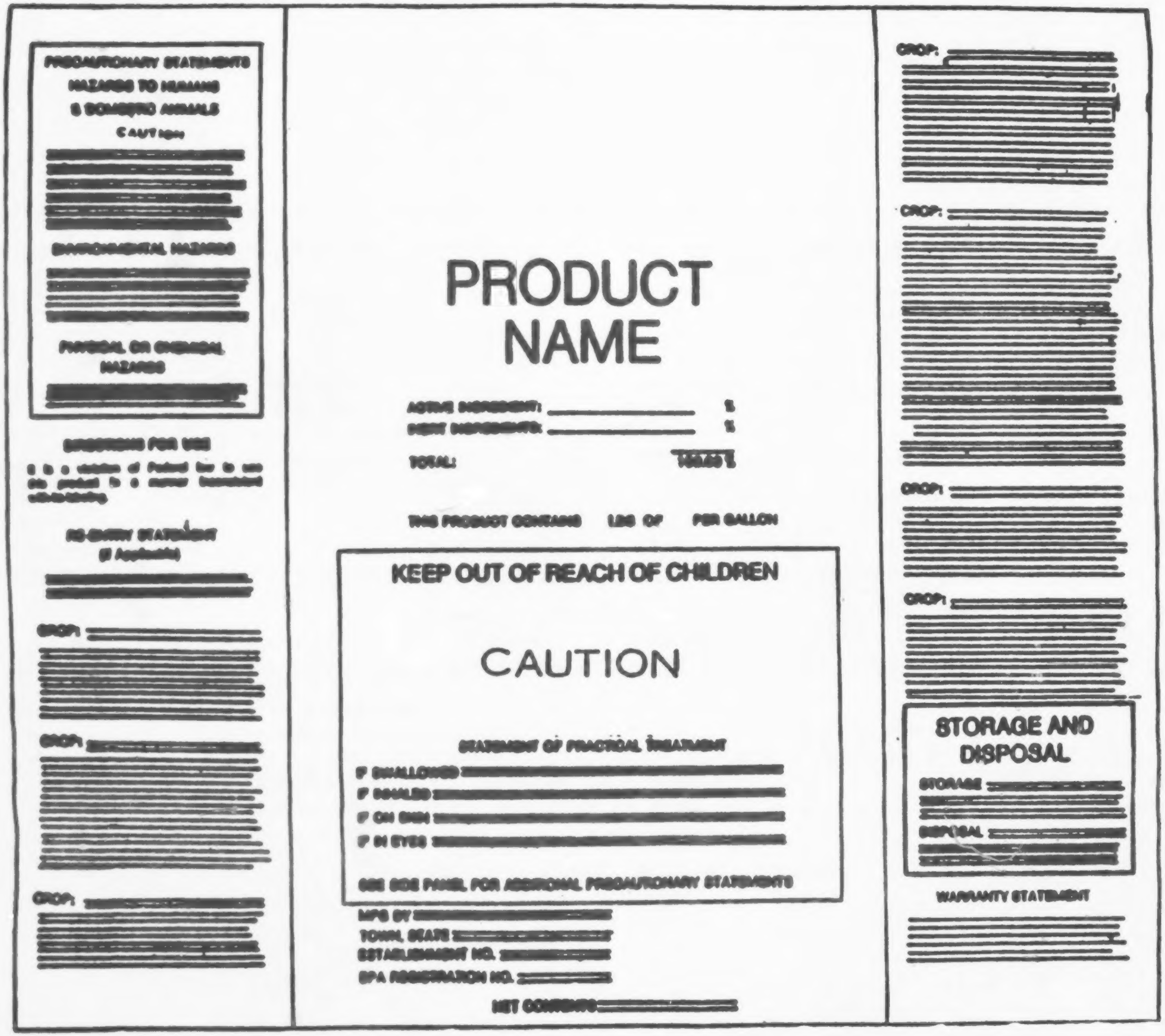
ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
1	Product name	All products	Front panel	Center front panel	
2	Company name and address	All products	None	Bottom front panel or end of label text	If registrant is not the producer, must be qualified by "Packed for . . ."; "Distributed by. . ."; etc.
3	Net contents	All products	None	Bottom front panel or end of label text	May be in metric units in addition to U.S. units.
4	EPA Req. No.	All products	None	Front panel	Must be in similar type size and run parallel to other type.
5	EPA Est. No.	All products	None	Front panel, immediately before or following Reg. No.	May appear on the container instead of the label.
6A	Ingredients statement	All products	Front panel	Immediately following product name	Text must run parallel with other text on the panel.
6B	Pounds/gallon statement	Liquid products where dosage given as lb/ai/unit area	Front panel	Directly below the main ingredients statement	
7	Front panel precautionary statements	All products	Front panel		All front panel precautionary statements must be grouped together, preferably blocked.
7A	Keep Out of Reach of Children (Child Hazard warning)	All products	Front panel	Above signal word	Note type size requirements.
7B	Signal word	All products	Front panel	Immediately below child hazard warning	Note type size requirements.

LABELING REQUIREMENTS OF FIFRA, AS AMENDED

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
7C	Skull & crossbones and word POISON (in red)	All products which are Category I based on oral, dermal, or inhalation toxicity	Front panel	Both in close proximity to signal word	
7D	Statement of Practical Treatment or First Aid	All products in Categories I, II, and III	Category I: Front panel unless referral statement is used. Others: Grouped with side panel precautionary statements.	Front panel for all.	
7E	Referral statement	All products where precautionary labeling appears on other than front panel.	Front panel		
8	Side/back panel precautionary statements	All products	None	Top or side of back panel preceding directions for use	Must be grouped under the headings in 8A, 8b, and 8C; preferably blocked.
8A	Hazards to Humans and Domestic Animals	All products in Categories I, II, and III	None	Same as above	Must be preceded by appropriate signal word.
8B	Environmental Hazards	All products	None	Same as above	Environmental hazards include bee caution where applicable.

LABELING REQUIREMENTS OF FIFRA, AS AMENDED

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
8C	Physical or chemical hazards	All pressurized products, others with flashpoints under 150 °F	None	Same as above	Refer to Appendix II guide PHYS/CHEM
9A	Restricted block	All restricted products	Top center of front panel	Preferably blocked	Includes a statement of the terms of restriction. The words "RESTRICTED USE PESTICIDE" must be same type size as signal word.
9B	Misuse statement	All products	Immediately following heading of directions for use		Required statement is: "It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
10A	Reentry statement	PR Notice 83-2 or as determined by the Agency	In the directions for use	Immediately after misuse statement	
10B	Storage and disposal block	All products	In the directions for use	Immediately before specific directions for use or at the end of directions for use	Must be set apart and clearly distinguishable from other directions for use. Refer to Appendix II guides STOR, CONT/DIS, and PEST/DIS for further information and required statements.
10C	Directions for use	All products	None	None	May be in metric as well as U.S. units.



PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
& DOMESTIC ANIMALS
CAUTION

ENVIRONMENTAL HAZARDS

PHYSICAL OR CHEMICAL
HAZARDS

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RE-ENTRY STATEMENT
(If Applicable)

CROP:

CROP:

CROP:

PRODUCT
NAME

ACTIVE INGREDIENT: %
INERT INGREDIENTS: %
TOTAL: 100.00 %

THIS PRODUCT CONTAINS LBS OF PER GALLON

KEEP OUT OF REACH OF CHILDREN

CAUTION

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED
IF INHALED
IF ON SKIN
IF IN EYES

SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

MFG BY
TOWN, STATE
ESTABLISHMENT NO.
EPA REGISTRATION NO.

NET CONTENTS

CROP:

CROP:

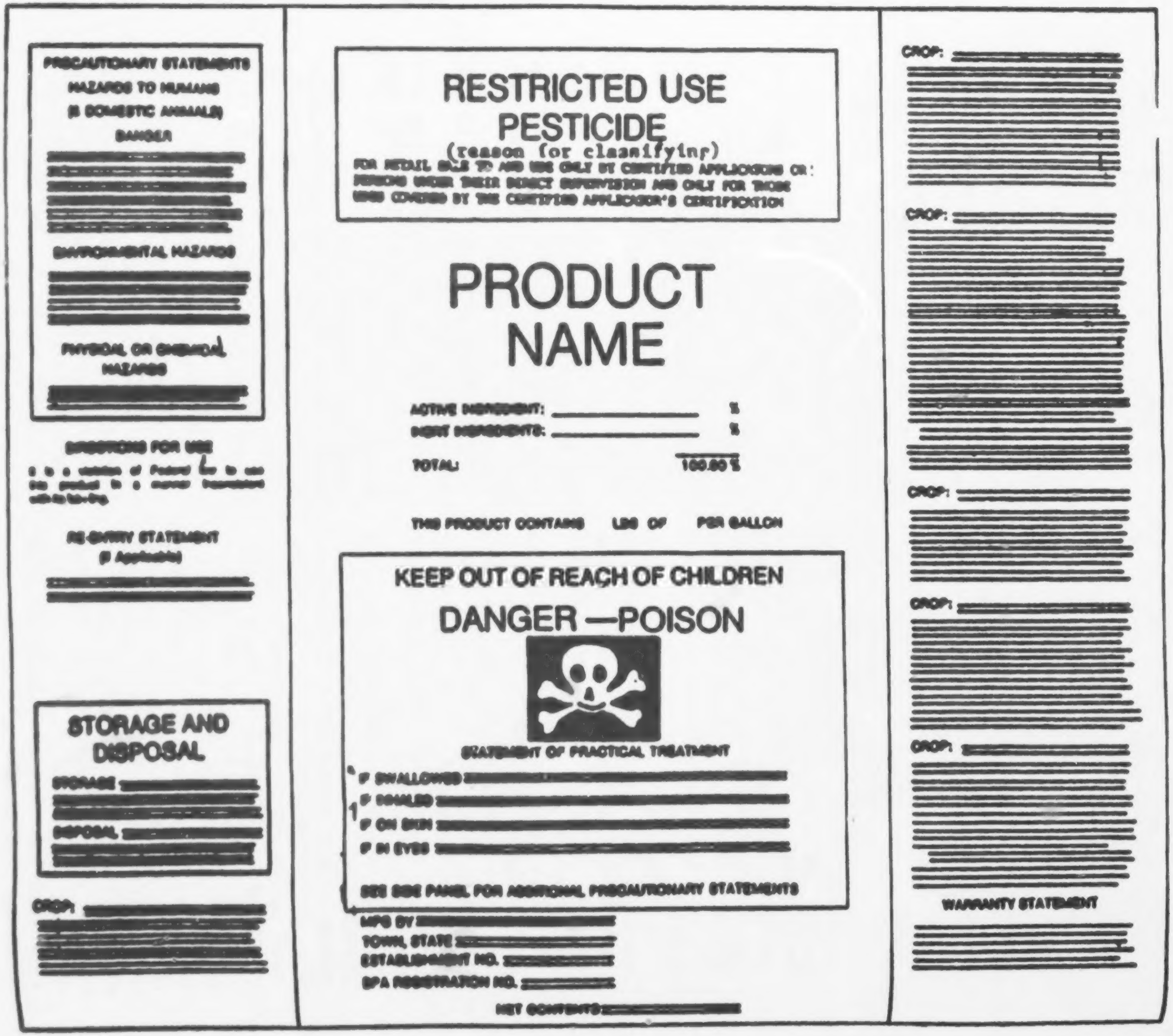
CROP:

CROP:

STORAGE AND
DISPOSAL

STORAGE
DISPOSAL

WARRANTY STATEMENT



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS

(& DOMESTIC ANIMALS)

DANGER

ENVIRONMENTAL HAZARDS

PHYSICAL OR CHEMICAL HAZARDS

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RE-ENTRY STATEMENT

(If Applicable)

STORAGE AND DISPOSAL

STORAGE:

DISPOSAL:

CROP:

RESTRICTED USE PESTICIDE

(reason for classifying)

FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION

PRODUCT NAME

ACTIVE INGREDIENT: ________ %

INERT INGREDIENTS: ________ %

TOTAL: 100.00 %

THIS PRODUCT CONTAINS LBS OF PER GALLON

KEEP OUT OF REACH OF CHILDREN

DANGER —POISON

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED

IF INHALED

IF ON SKIN

IF IN EYES

SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

MFG BY

TOWN, STATE

ESTABLISHMENT NO.

EPA REGISTRATION NO.

NET CONTENTS

CROP:

CROP:

CROP:

CROP:

CROP:

WARRANTY STATEMENT

~~(e) *Conditional registration.* Any application for which a review of scientific data is needed, other than an application which the Agency determines may be considered for unconditional registration under paragraph (d) of this section, will be treated as an application for conditional registration under FIFRA sec. 3(c)(7) and will be reviewed and acted upon as set forth in §§ 162.160 through 162.177.~~

~~(f) *Denial of registration.* The Administrator shall deny an application reviewed under paragraph (d) of this section if any of the requirements of paragraph (d)(2) of this section are not met, or if there are insufficient data to make the required determinations.~~

~~(1) *Notification.* Promptly after making a determination to deny a registration, the Administrator shall notify the applicant by certified letter of the denial of registration and shall set forth the reasons and factual basis for the determination and the conditions, if any, which must be satisfied in order for the registration to be approved.~~

~~(2) *Opportunity for remedy by applicant.* (i) The applicant will have 30 days from the date of receipt of the certified letter to take the specified corrective action.~~

~~(ii) The applicant may petition the Administrator to withdraw his application. The Administrator may, in his discretion, deny any petition for withdrawal and proceed to issue a notice of denial in accordance with paragraph (f)(3) of this section.~~

~~(3) Federal Register *publication.* If the applicant fails to remedy the deficiency of his registration application, the Administrator shall promptly issue in the Federal Register a notice of denial of registration. Such notice shall set forth the reasons and factual basis for the denial and shall contain the name and address of the applicant, the product name, the name and percentage by weight of each active ingredient in the product, the proposed patterns of use, and the proposed classification.~~

~~(4) *Hearing rights.* Within 30 days following publication of the denial in the Federal Register, the applicant or any interested party with the written authorization of the applicant may request a hearing pursuant to section 6(b) of the Act and Part 164 of this chapter. If no hearing is timely requested, the denial shall become effective at the end of the 30 days.~~

~~(g) *Disposition of material submitted with the application.* The test data and other information submitted with an application shall become a part of the official file of the Agency for that application or registration. Except as provided by section 10 of the Act, within 30 days after the registration of a pesticide, the data called for in the registration statement together with such other scientific information as the Administrator deems relevant to his decision shall be made available for public inspection.~~

~~[48 FR 34004, July 26, 1983]~~

~~§ 162.8 Data to be furnished by applicant.~~

~~(a) An applicant for registration, reregistration, or amendment of a registration under FIFRA sec. 3(c)(5) shall furnish data as required by the Agency to determine whether his application may be approved under this Part.~~

~~(b) An applicant shall submit with his application any factual information regarding adverse effects of the pesticide on the environment or man that:~~

~~(1) Has been obtained by him or has come to his attention; and~~

~~(2) Insofar as he is aware, has not previously been submitted to the Agency.~~

~~Such information shall include, but shall not be limited to, published or unpublished laboratory studies and accident experience.~~

~~[48 FR 34006, July 26, 1983]~~

§ 162.10 Labeling requirements.

(a) *General*—(1) *Contents of the label.* Every pesticide products shall bear a label containing the information specified by the Act and the regulations in this Part. The contents of a label must show clearly and prominently the following:

(i) The name, brand, or trademark under which the product is sold as prescribed in paragraph (b) of this section;

(ii) The name and address of the producer, registrant, or person for whom produced as prescribed in paragraph (c) of this section;

(iii) The net contents as prescribed in paragraph (d) of this section;

(iv) The product registration number as prescribed in paragraph (e) of this section;

(v) The producing establishment number as prescribed in paragraph (f) of this section;

(vi) An ingredient statement as prescribed in paragraph (g) of this section;

(vii) Warning or precautionary statements as prescribed in paragraph (h) of this section;

(viii) The directions for use as prescribed in paragraph (i) of this section; and

(ix) The use classification(s) as prescribed in paragraph (j) of this section.

(2) *Prominence and legibility.* (i) All words, statements, graphic representations, designs or other information required on the labeling by the Act or the regulations in this part must be clearly legible to a person with normal vision, and must be placed with such conspicuousness (as compared with other words, statements, designs, or graphic matter on the labeling) and expressed in such terms as to render it likely to be read and understood by the ordinary individual under customary conditions of purchase and use.

(ii) All required label text must:

(A) Be set in 6-point or larger type;

(B) Appear on a clear contrasting background; and

(C) Not be obscured or crowded.

(3) *Language to be used.* All required label or labeling text shall appear in the English language. However, the Agency may require or the applicant may propose additional text in other languages as is considered necessary to protect the public. When additional text in another language is necessary, all labeling requirements will be applied equally to both the English and other-language versions of the labeling.

(4) *Placement of Label*—(i) *General.* The label shall appear on or be securely attached to the immediate container of the pesticide product. For purposes of this Section, and the misbranding provisions of the Act, "securely attached" shall mean that a label can reasonably be expected to remain affixed during the foreseeable conditions and period of use. If the immediate container is enclosed within a wrapper or outside container through which the label cannot be clearly read, the label must also be securely attached to such outside wrapper or container, if it is a part of the package as customarily distributed or sold.

(ii) *Tank cars and other bulk containers*—(A) *Transportation.* While a pesticide product is in transit, the appropriate provisions of 49 CFR Parts 170–189, concerning the transportation of hazardous materials, and specifically those provisions concerning the labeling, marking and placarding of hazardous materials and the vehicles carrying them, define the basic Federal requirements. In addition, when any registered pesticide product is transported in a tank car, tank truck or other mobile or portable bulk container, a copy of the accepted label must be attached to the shipping papers, and left with the consignee at the time of delivery.

(B) *Storage.* When pesticide products are stored in bulk containers, whether mobile or stationary, which remain in the custody of the user, a copy of the label of labeling, including all appropriate directions for use, shall be securely attached to the container in the immediate vicinity of the discharge control valve.

(5) *False or misleading statements.* Pursuant to section 2(q)(1)(A) of the Act, a pesticide or a device declared subject to the Act pursuant to § 162.15, is misbranded if its labeling is false or misleading in any particular including both pesticidal and non-pesticidal claims. Examples of statements or representations in the labeling which constitute misbranding include:

(i) A false or misleading statement concerning the composition of the product;

(ii) A false or misleading statement concerning the effectiveness of the product as a pesticide or device.

(iii) A false or misleading statement about the value of the product for purposes other than as a pesticide or device;

(iv) A false or misleading comparison with other pesticides or devices;

(v) Any statement directly or indirectly implying that the pesticide or device is recommended or endorsed by any agency of the Federal Government;

(vi) The name of a pesticide which contains two or more principal active ingredients if the name suggests one or more but not all such principal active ingredients even though the names of the other ingredients are stated elsewhere in the labeling;

(vii) A true statement used in such a way as to give a false or misleading impression to the purchaser;

(viii) Label disclaimers which negate or detract from labeling statements required under the Act and these regulations;

(ix) Claims as to the safety of the pesticide or its ingredients, including statements such as "safe," "nonpoisonous," "noninjurious," "harmless" or "nontoxic to humans and pets" with or without such a qualifying phrase as "when used as directed"; and

(x) Non-numerical and/or comparative statements on the safety of the product, including but not limited to:

(A) "Contains all natural ingredients";

(B) "Among the least toxic chemicals known"

(C) "Pollution approved"

(6) *Final printed labeling.* (i) Except as provided in paragraph (a)(6)(ii) of this section, final printed labeling must be submitted and accepted prior to registration. However, final printed labeling need not be submitted until draft label texts have been provisionally accepted by the Agency.

(ii) Clearly legible reproductions or photo reductions will be accepted for unusual labels such as those silk-screened directly onto glass or metal containers or large bag or drum labels. Such reproductions must be of microfilm reproduction quality.

(b) *Name, brand, or trademark.* (1) The name, brand, or trademark under which the pesticide product is sold shall appear on the front panel of the label.

(2) No name, brand, or trademark may appear on the label which:

(i) Is false or misleading, or

(ii) Has not been approved by the Administrator through registration or supplemental registration as an additional name pursuant to § 162.6(b)(4).

(c) Name and address of producer, registrant, or person for whom produced. An unqualified name and address given on the label shall be considered as the name and address of the producer. If the registrant's name appears on the label and the registrant is not the producer, or if the name of the person for whom the pesticide was produced appears on the label, it must be qualified by appropriate wording such as "Packed for * * *," "Distributed by * * *," or "Sold by * * *" to show that the name is not that of the producer.

(d) *Net weight or measure of contents.* (1) The net weight or measure of content shall be exclusive of wrappers or other materials and shall be the average content unless explicitly stated as a minimum quantity.

(2) If the pesticide is a liquid, the net content statement shall be in terms of liquid measure at 68° F (20°C) and shall be expressed in conventional American units of fluid ounces, pints, quarts, and gallons.

(3) If the pesticide is solid or semisolid, viscous or pressurized, or is a mixture of liquid and solid, the net content statement shall be in terms of weight expressed as avoirdupois pounds and ounces.

(4) In all cases, net content shall be stated in terms of the largest suitable units, i.e., "1 pound 10 ounces" rather than "26 ounces."

(5) In addition to the required units specified, net content may be expressed in metric units.

(6) Variation above minimum content or around an average is permissible only to the extent that it represents deviation unavoidable in good manufacturing practice. Variation below a stated minimum is not permitted. In no case shall the average content of the packages in a shipment fall below the stated average content.

(e) *Product registration number.* The registration number assigned to the pesticide product at the time of registration shall appear on the label, preceded by the phrase "EPA Registration No.," or the phrase "EPA Reg. No." The registration number shall be set in type of a size and style similar to other print on that part of the label on which it appears and shall run parallel to it. The registration number and the required identifying phrase shall not appear in such a manner as to suggest or imply recommendation or endorsement of the product by the Agency.

(f) *Producing establishments registration number.* The producing establishment registration number preceded by the phrase "EPA Est.", of the final establishment at which the product was produced may appear in any suitable location on the label or immediate container. It must appear on the wrapper or outside container of the package if the EPA establishment registration number on the immediate container cannot be clearly read through such wrapper or container.

(g) *Ingredient statement*—(1) *General.* The label of each pesticide product must bear a statement which contains the name and percentage by weight of each active ingredient, the total percentage by weight of all inert ingredients; and if the pesticide contains arsenic in any form, a statement of the percentages of total and water-soluble arsenic calculated as elemental arsenic. The active ingredients must be designated by the term "active ingredients" and the inert ingredients by the term "inert ingredients," or the singular forms of these terms when appropriate. Both terms shall be in the same type size, be aligned to the same margin and be equally prominent. The statement "Inert Ingredients, none" is not required for pesticides which contain 100 percent active ingredients. Unless the ingredient statement is a complete analysis of the pesticide, the term "analysis" shall not be used as a heading for the ingredient statement.

(2) *Position of ingredient statement.* (i) The ingredient statement is normally required on the front panel of the label. If there is an outside container or wrapper through which the ingredient statement cannot be clearly read, the ingredient statement must also appear on such outside container or wrapper. If the size or form of the package makes it impracticable to place the ingredient statement on the front panel of the label, permission may be granted for the ingredient statement to appear elsewhere.

(ii) The text of the ingredient statement must run parallel with other text on the panel on which it appears, and must be clearly distinguishable from and must not be placed in the body of other text.

(3) *Names to be used in ingredient statement.* The name used for each ingredient shall be the accepted common name, if there is one, followed by the chemical name. The common name may be used alone only if it is well known. If no common name has been established, the chemical name alone shall be used. In no case will the use of a trademark or proprietary name be permitted unless such name has been accepted as a common name by the Administrator under the authority of section 25(c)(6).

(4) *Statements of percentages.* The percentages of ingredients shall be stated in terms of weight-to-weight. The sum of percentages of the active and the inert ingredients shall be 100. Percentages shall not be expressed by a range of values such as "22-25%." If the uses of the pesticide product are expressed as weight of active ingredient per unit area, a statement of the weight of active ingredient per unit volume of the pesticide formulation shall also appear in the ingredient statement.

(5) *Accuracy of stated percentages.* The percentages given shall be as precise as possible reflecting good manufacturing practice. If there may be unavoidable variation between manufacturing batches, the value stated for each active ingredient shall be the lowest percentage which may be present.

(6) *Deterioration.* Pesticides which change in chemical composition significantly must meet the following labeling requirements:

(i) In cases where it is determined that a pesticide formulation changes chemical composition significantly, the product must bear the following statement in a prominent position on the label: "Not for sale or use after [date]."

(ii) The product must meet all label claims up to the expiration time indicated on the label.

(7) *Inert ingredients.* The Administrator may require the name of any inert ingredient(s) to be listed in the ingredient statement if he determines that such ingredient(s) may pose a hazard to man or the environment.

(h) *Warnings and precautionary statements.* Required warnings and precautionary statements concerning the general areas of toxicological hazard including hazard to children, environmental hazard, and physical or chemical hazard fall into two groups; those required on the front panel of the labeling and those which may appear elsewhere. Specific requirements concerning content, placement, type size, and prominence are given below.

(1) *Required front panel statements.* With the exception of the child hazard warning statement, the text required on the front panel of the label is determined by the Toxicity Category of the pesticide. The category is assigned on the basis of the highest hazard shown by any of the indicators in the table below:

Hazard indicators	Toxicity categories			
	I	II	III	IV
Oral LD_{50}	Up to and including 50 mg/kg.	From 50 thru 500 mg/kg.	From 500 thru 5000 mg/kg.	Greater than 5000 mg/kg.
Inhalation LC_{50}	Up to and including .2 mg/liter.	From .2 thru 2 mg/liter.	From 2. thru 20 mg/liter.	Greater than 20 mg/liter.
Dermal LD_{50}	Up to and including 200 mg/kg.	From 200 thru 2000	From 2,000 thru 20,000	Greater than 20,000.
Eye effects	Corrosive; corneal opacity not reversible within 7 days.	Corneal opacity reversible within 7 days; irritation persisting for 7 days.	No corneal opacity; irritation reversible within 7 days.	No irritation.
Skin effects	Corrosive	Severe irritation at 72 hours.	Moderate irritation at 72 hours.	Mild or slight irritation at 72 hours.

(i) *Human hazard signal word*—(A) *Toxicity Category I.* All pesticide products meeting the criteria of Toxicity Category I shall bear on the front panel the signal word "Danger." In addition if the product was assigned to Toxicity Category I on the basis of its oral, inhalation or dermal toxicity (as distinct from skin and eye local effects) the word "Poison" shall appear in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word "poison."

(B) *Toxicity Category II.* All pesticide products meeting the criteria of Toxicity Category II shall bear on the front panel the signal word "Warning."

(C) *Toxicity Category III.* All pesticide products meeting the criteria of Toxicity Category III shall bear on the front panel the signal word "Caution."

(D) *Toxicity Category IV* All pesticide products meeting the criteria of Toxicity Category IV shall bear on the front panel the signal word "Caution."

(E) *Use of signal words.* Use of any signal word(s) associated with a higher Toxicity Category is not permitted except when the Agency determines that such labeling is necessary to prevent unreasonable adverse effects on man or the environment. In no case shall more than one human hazard signal word appear on the front panel of a label.

(ii) *Child hazard warning.* Every pesticide product label shall bear on the front panel the statement "keep out of reach of children." Only in cases where the likelihood of contact with children during distribution, marketing, storage or use is demonstrated by the applicant to be extremely remote, or if the nature of the pesticide is such that it is approved for use on infants or small children, may the Administrator waive this requirement.

(iii) *Statement of practical treatment*—(A) *Toxicity Category I.* A statement of practical treatment (first aid or other) shall appear on the front panel of the label of all pesticides falling into Toxicity Category I on the basis of oral, inhalation or dermal toxicity. The Agency may, however, permit reasonable variations in the placement of the statement of practical treatment is some reference such as "See statement of practical treatment on back panel" appears on the front panel near the word "Poison" and the skull and crossbones.

(B) *Other toxicity categories.* The statement of practical treatment is not required on the front panel except as described in paragraph (h)(1)(iii)(A) of this section. The applicant may, however, include such a front panel statement at his option. Statements of practical treatment are, however, required elsewhere on the label in accord with paragraph (h)(2) of this section if they do not appear on the front panel.

(iv) *Placement and prominence.* All the require front panel warning statements shall be grouped together on the label, and shall appear with sufficient prominence relative to other front panel text and graphic material to make them unlikely to be overlooked under customary conditions of purchase and use. The following table shows the minimum type size requirements for the front panel warning statements on various sizes of labels:

Size of label front panel in square inches	Points	
	Required signal word, all capitals	"Keep out of reach of children"
5 and under	6	6
Above 5 to 10	10	6
Above 10 to 15	12	8
Above 15 to 30	14	10
Over 30	18	12

(2) *Other required warnings and precautionary statements.* The warnings and precautionary statements as required below shall appear together on the label under the general heading "Precautionary Statements" and under appropriate subheadings of "Hazard to Humans and Domestic Animals," "Environmental Hazard" and "Physical or Chemical Hazard."

(i) *Hazard to humans and domestic animals.* (A) Where a hazard exists to humans or domestic animals, precautionary statements are required indicating the particular hazard, the route(s) of exposure and the precautions to be taken to avoid accident, injury or damage. The precautionary paragraph shall be immediately preceded by the appropriate hazard signal word.

(B) The following table depicts typical precautionary statements. These statements must be modified or expanded to reflect specific hazards.

Toxicity category	Precautionary statements by toxicity category	
	Oral, inhalation, or dermal toxicity	Skin and eye local effects
I	Fatal (poisonous) if swallowed [inhaled or absorbed through skin]. Do not breathe vapor [dust or spray mist]. Do not get in eyes, on skin, or on clothing [Front panel statement of practical treatment required.].	Corrosive, causes eye and skin damage [or skin irritation]. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. [Appropriate first aid statement required.]
II	May be fatal if swallowed [inhaled or absorbed through the skin]. Do not breathe vapors [dust or spray mist]. Do not get in eyes, on skin, or on clothing. [Appropriate first aid statements required.].	Causes eye [and skin] irritation. Do not get in eyes, on skin, or on clothing. Harmful if swallowed. [Appropriate first aid statement required.]
III	Harmful if swallowed [inhaled or absorbed through the skin]. Avoid breathing vapors [dust or spray mist]. Avoid contact with skin [eyes or clothing]. [Appropriate first aid statement required.].	Avoid contact with skin, eyes or clothing. In case of contact immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.
IV	[No precautionary statements required.]	[No precautionary statements required.]

(ii) *Environmental hazards.* Where a hazard exists to non target organisms excluding humans and domestic animals, precautionary statements are required stating the nature of the hazard and the appropriate precautions to avoid potential accident, injury or damage. Examples of the hazard statements and the circumstances under which they are required follow:

(A) If a pesticide intended for outdoor use contains an active ingredient with a mammalian acute oral LD_{50} of 100 or less, the statement "This Pesticide is Toxic to Wildlife" is required.

(B) If a pesticide intended for outdoor use contains an active ingredient with a fish acute LC_{50} of 1 ppm or less, the statement "This Pesticide is Toxic to Fish" is required.

(C) If a pesticide intended for outdoor use contains an active ingredient with an avian acute oral LD_{50} of 100 mg/kg or less, or a subacute dietary LC_{50} of 500 ppm or less, the statement "This Pesticide is Toxic to Wildlife" is required.

(D) If either accident history or field studies demonstrate that use of the pesticide may result in fatality to birds, fish or mammals, the statement "This pesticide is extremely toxic to wildlife (fish)" is required.

(E) For uses involving foliar application to agricultural crops, forests, or shade trees, or for mosquito abatement treatments, pesticides toxic to pollinating insects must bear appropriate label cautions.

(F) For all outdoor uses other than aquatic applications the label must bear the caution "Keep out of lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes."

(iii) *Physical or chemical hazards.* Warning statements on the flammability or explosive characteristics of the pesticide are required as follows:

Flash point	Required text
(A) PRESSURIZED CONTAINERS	
Flash point at or below 20° F; if there is a flashback at any valve opening.	Extremely flammable. Contents under pressure. Keep away from fire, sparks, and heated surfaces. Do not puncture or incinerate container. Exposure to temperatures above 130° F may cause bursting.
Flash point above 20° F and not over 80° F or if the flame extension is more than 18 in long at a distance of 6 in from the flame.	Flammable. Contents under pressure. Keep away from heat, sparks, and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130° F may cause bursting.
All other pressurized containers	Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130° F may cause bursting.
(B) NONPRESSURIZED CONTAINERS	
At or below 20° F	Extremely flammable. Keep away from fire, sparks, and heated surfaces.
Above 20° F and not over 80° F	Flammable. Keep away from heat and open flame.
Above 80° F and not over 150° F	Do not use or store near heat or open flame.

(i) *Directions for Use*—(1) *General requirements*—(i) *Adequacy and clarity of directions.* Directions for use must be stated in terms which can be easily read and understood by the average person likely to use or to supervise the use of the pesticide. When followed, directions must be adequate to protect the public from fraud and from personal injury and to prevent unreasonable adverse effects on the environment.

(ii) *Placement of directions for use.* Directions may appear on any portion of the label provided that they are conspicuous enough to be easily read by the user of the pesticide product. Directions for use may appear on printed or graphic matter which accompanies the pesticide provided that:

(A) If required by the Agency, such printed or graphic matter is securely attached to each package of the pesticide, or placed within the outside wrapper or bag;

(B) The label bears a reference to the directions for use in accompanying leaflets or circulars, such as "See directions in the enclosed circular:" and

(C) The Administrator determines that it is not necessary for such directions to appear on the label.

(iii) *Exceptions to requirement for direction for use*—(A) Detailed directions for use may be omitted from labeling of pesticides which are intended for use only by manufacturers of products other than pesticide products in their regular manufacturing processes, provided that:

(*1*) The label clearly shows that the product is intended for use only in manufacturing processes and specifies the type(s) of products involved.

(*2*) Adequate information such as technical data sheets or bulletins, is available to the trade specifying the type of product involved and its proper use in manufacturing processes;

(*3*) The product will not come into the hands of the general public except after incorporation into finished products; and

(*4*) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment.

(B) Detailed directions for use may be omitted from the labeling of pesticide products for which sale is limited to physicians, veterinarians, or druggists, provided that:

(*1*) The label clearly states that the product is for use only by physicians or veterinarians;

(*2*) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment; and

(*3*) The product is also a drug and regulated under the provisions of the Federal Food, Drug and Cosmetic Act.

(C) Detailed directions for use may be omitted from the labeling of pesticide products which are intended for use only by formulators in preparing pesticides for sale to the public, provided that:

(*1*) There is information readily available to the formulators on the composition, toxicity, methods of use, applicable restrictions or limitations, and effectiveness of the product for pesticide purposes;

(*2*) The label clearly states that the product is intended for use only in manufacturing, formulating, mixing, or repacking for use as a pesticide and specifies the type(s) of pesticide products involved;

(*3*) The product as finally manufactured, formulated, mixed, or repackaged is registered; and

(*4*) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment.

(2) *Contents of Directions for Use.* The directions for use shall include the following, under the headings "Directions for Use':

(i) The statement of use classification as prescribed in 162.10(j) immediately under the heading "Directions for Use."

(ii) Immediately below the statement of use classification, the statement "It is a violation of Federal law to use this product in a manner inconsistent with its labeling."

(iii) The site(s) of application, as for example the crops, animals, areas, or objects to be treated.

(iv) The target pest(s) associated with each site.

(v) The dosage rate associated with each site and pest.

(vi) The method of application, including instructions for dilution, if required, and type(s) of application apparatus or equipment required.

(vii) The frequency and timing of applications necessary to obtain effective results without causing unreasonable adverse effects on the environment.

(viii) Specific limitations on reentry to areas where the pesticide has been applied, meeting the requirements concerning reentry provided by 40 CFR Part 170.

(ix) Specific directions concerning the storage and disposal of the pesticide and its container, meeting the requirements of 40 CFR Part 165. These instructions shall be grouped and appear under the heading "Storage and Disposal." This heading must be set in type of the same minimum sizes as required for the child hazard warning. (See Table in § 162.10(h)(1)(iv))

(x) Any limitations or restrictions on use required to prevent unreasonable adverse effects, such as:

(A) Required intervals between application and harvest of food or feed crops.

(B) Rotational crop restrictions.

(C) Warnings as required against use on certain crops, animals, objects, or in or adjacent to certain areas.

(D) [Reserved]

(E) For restricted use pesticides, a statement that the pesticide may be applied under the direct supervision of a certified applicator who is not physically present at the site of application but nonetheless available to the person applying the pesticide, unless the Agency has determined that the pesticide may only be applied under the direct supervision of a certified applicator who is physically present.

(F) Other pertinent information which the Administrator determines to be necessary for the protection of man and the environment.

(j) *Statement of Use Classification.* By October 22, 1976, all pesticide products must bear on their labels a statement of use classification as described in paragraphs (j) (1) and (2) of this section. Any pesticide product for which some uses are classified for general use and others for restricted use shall be separately labeled according to the labeling standards set forth in this subsection, and shall be marketed as separate products with different registration numbers, one bearing directions only for general use(s) and the other bearing directions for restricted use(s) except that, if a product has both restricted use(s) and general use(s), both of these uses may appear on a product labeled for restricted use. Such products shall be subject to the provisions of § 162.10(j)(2).

(1) *General Use Classification.* Pesticide products bearing directions for use(s) classified general shall be labeled with the exact words "General Classification" immediately below the heading "Directions for Use." And reference to the general classification that suggests or implies that the general utility of the pesticide extends beyond those purposes and uses contained in the Directions for Use will be considered a false or misleading statement under the statutory definitions of misbranding.

(2) *Restricted Use Classification.* Pesticide products bearing direction for use(s) classified restricted shall bear statements of restricted use classification on the front panel as described below:

(i) *Front panel statement of restricted use classification.* (A) At the top of the front panel of the label, set in type of the same minimum sizes as required for human hazard signal words (see table in § 162.10(h)(1)(iv)), and appearing with sufficient prominence relative to other text and graphic material on the front panel to make it unlikely to be overlooked under customary conditions of purchase and use, the statement "Restricted Use Pesticide" shall appear.

(B) Directly below this statement on the front panel, a summary statement of the terms of restriction imposed as a precondition to registration shall appear. If use is restricted to certified applicators, the following statement is required: "For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification." If, however, other regulatory restrictions are imposed, the Administrator will define the appropriate wording for the terms of restriction by regulation.

(k) Advertising. [Reserved]

[40 FR 28268, July 3, 1975; 40 FR 32329, Aug. 1, 1975; 40 FR 36571, Aug. 21, 1975, as amended at 43 FR 5786, Feb. 9, 1978]

~~§ 162.11 Criteria for determinations of unreasonable adverse effects.~~

~~(a)–(b) [Reserved]~~

~~(c) *Use classification*—(1) *Classification criteria for new registrations.* Except as provided in paragraph (c)(4) of this section, a specific use(s) of a pesticide product not previously registered shall be classified for general use if each of the applicable criteria set forth in paragraph (c)(1)(i) through (iii) of this section is met. Otherwise, the product use(s) shall be classified for restricted use unless a review of the labeling pursuant to paragraph (c)(3) of this section indicates that the product use may be classified for general use or the benefits from unrestricted use of the pesticide outweigh the risks of unrestricted use of the pesticide. Each of the separate criteria as set forth below must be applied for the product use(s), to be classified~~

PHYS/CHEM-1

PHYSICAL/CHEMICAL HAZARDS

Criteria	Required Label Statement
I. Pressurized Containers	
A. Flashpoint at or below 20°F; or if there is a flashback at any valve opening.	Extremely flammable. Contents under pressure. Keep away from fire, sparks, and heated surfaces. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
B. Flashpoint above 20°F and not over 80°F; or if the flame extension is more than 18 inches long at a distance of 6 inches from the valve opening.	Flammable. Contents under pressure. Keep away from heat, sparks, and flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
C. All Other Pressurized Containers	Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
II. Non-Pressurized Containers	
A. Flashpoint at or below 20°F.	Extremely flammable. Keep away from fire, sparks, and heated surfaces.
B. Flashpoint above 20°F and not over 80°F.	Flammable. Keep away from heat and open flame.
C. Flashpoint over 80°F and not over 150°F.	Do not use or store near heat and open flame.
D. Flashpoint above 150°F.	None required.

STOR-1

STORAGE INSTRUCTIONS FOR PESTICIDES

Heading:

All products are required to bear specific label instructions about storage and disposal. Storage and disposal instructions must be grouped together in the directions for use portion of the label under the heading STORAGE AND DISPOSAL. Products intended solely for domestic use need not include the heading "STORAGE AND DISPOSAL."

Storage Instructions:

All product labels are required to have appropriate storage instructions. Specific storage instructions are not prescribed. Each registrant must develop his own storage instructions, considering, when applicable, the following factors:

1. Conditions of storage that might alter the composition or usefulness of the pesticide. Examples could be temperature extremes, excessive moisture or humidity, heat, sunlight, friction, or contaminating substances or media.

2. Physical requirements of storage which might adversely affect the container of the product and its ability to continue to function properly. Requirements might include positioning of the container in storage, storage or damage due to stacking, penetration of moisture, and ability to withstand shock or friction.

3. Specifications for handling the pesticide container, including movement of container within the storage area, proper opening and closing procedures (particularly for opened containers), and measures to minimize exposure while opening or closing container.

4. Instructions on what to do if the container is damaged in any way, or if the pesticide is leaking or has been spilled, and precautions to minimize exposure if damage occurs.

5. General precautions concerning locked storage, storage in original container only, and separation of pesticides during storage to prevent cross-contamination of other pesticides, fertilizer, food, and feed.

6. General storage instructions for household products should emphasize storage in original container and placement in locked storage areas.

PEST/DIS-1

PESTICIDE DISPOSAL INSTRUCTIONS

The label of all products, except those intended solely for domestic use, must bear explicit instructions about pesticide disposal. The statements listed below contain the exact wording that must appear on the label of these products:

1. The labels of all products, except domestic use, must contain the statement, "Do not contaminate water, food, or feed by storage or disposal."

2. Except those products intended solely for domestic use, the labels of all products that contain active ingredients that are Acute Hazardous Wastes or are assigned to Toxicity Category I on the basis of oral or dermal toxicity, or Toxicity Category I or II on the basis of acute inhalation toxicity must bear the following pesticide disposal statement:

> "Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance."

3. The labels of all products, except those intended for domestic use, containing active or inert ingredients that are Toxic Hazardous Wastes or meet any of the criteria in 40 CFR 261, Subpart C for a hazardous waste must bear the following pesticide disposal statement:

> "Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of

> Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance."

4. Labels for all other products, except those intended for domestic use, must bear the following pesticide disposal statement:

> "Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility."

5. Products intended for domestic use only must bear the following disposal statement:

> "Securely wrap original container in several layers of newspaper and discard in trash."

CONT/DIS-1

CONTAINER DISPOSAL INSTRUCTIONS

The label of each product must bear container disposal instructions appropriate to the type of container.

1. Domestic use products must bear one of the following container disposal statements:

Container Type	Statement
Non-aerosol products (bottles, cans, jars)	Do not reuse container (bottle, can, jar). Rinse thoroughly before discarding in trash.
Non-aerosol products (bags)	Do not reuse bag. Discard bag in trash.
Aerosol products	Replace cap and discard containers in trash. Do not incinerate or puncture.

2. All other products must bear container disposal instructions, based on container type, listed below:

Container Type	Statement
Metal containers (non-aerosol)	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.
Plastic containers	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.
Glass containers	Triple rinse (or equivalent). Then dispose of in a sanitary landfill or by other approved state and local procedures.
Fiber drums with liners	Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by state and local authorities. If drum is contaminated and cannot be reused[1], dispose of in the same manner.
Paper and plastic bags	Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.
Compressed gas cylinders	Return empty cylinder for reuse (or similar wording)

1/ Manufacturer may replace this phrase with one indicating whether and how fiber drum may be reused.

APPENDIX III

USE INDEX APPENDIX

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lus, heliotrope, hemlock, hibiscus, holly, honeysuckle, impatiens, iris, ivy, jade, lilac, lobelia, locust, maple, marigold, mimosa, nasturtium, oak, ornamental citrus, ornamental cranberry, palm, peony, petunia, philodendron, pine, pothos, pyracantha, queen sago, rhododendron, rose, rubber plant, silver vine, snapdragon, spirea, spruce, tobira, toyon, umbrella tree, verbena, viburnum, wandering jew, wax plant and zinnia) (including nursery stock) 11

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c004001/2

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)*

TYPE PESTICIDE: Insecticide, Acaricide

FORMULATIONS:
Tech (90%, 93%)
FI (0.1%, 0.24%, 0.3%, 0.34%, 0.342%, 0.35%, 0.38%, 0.405%, 0.45%, 0.675%, 0.714%, 0.746%, 0.9%, 0.972%, 1.98%, 2%, 2.01%, 2.17%, 2.5%, 3.34%, 4%, 4.5%, 4.71%, 4.482%, 5%, 5.57%, 6.5%, 6.67%, 7%, 7.28%, 7.5%, 7.8%, 8%, 8.34%, 9%, 9.56%, 10%, 10.37%, 14.3%, 15%, 16%, 16.8%, 18.2%, 19.8%, 20%, 21.06%, 21.75%, 90%)
D (0.16%)
Impr (0.35%, 0.4%, 0.45%, 10%, 28%, 29.2%, 30%, 54.5%, 60.43%, 64.8%, 65%, 65.15%, 78.78%, 79.5%, 79.6%, 89.7%, 98.04%, 98.35%, 99.8%)
EC (0.05%, 0.9%, 1% (0.074 lb/gal), 1% (0.0805 lb/gal), 1.2% (0.082 lb/gal), 1.875% (0.144 lb/gal), 2.5% (0.17 lb/gal), 2.95% (0.206 lb/gal), 2.97% (0.22 lb/gal), 3.28%, 3.42%, 5% (0.866 lb/gal), 15% (1.27 lb/gal))
SC/L (0.03%, 0.06%, 0.066%, 0.5%, 2% (0.136 lb/gal), 2.5% (0.1645 lb/gal), 2.62%, 3.75% (0.25 lb/gal), 5% (0.37 lb/gal), 5.56%, 6.8%, 7.53%, 12.51% (0.9 lb/gal), 13.34%)
RTU (0.019%, 0.03%, 0.1% (0.00834 lb/gal), 0.12%, 0.125% (0.0825 lb/gal), 0.15%, 0.25% (0.016-0.017 lb/gal), 0.25% (0.0166 lb/gal), 0.25% (0.017 lb/gal), 0.25% (0.021 lb/gal), 0.3% (0.02 lb/gal), 0.375% (0.0244 lb/gal), 0.417%, 0.45% (0.03 lb/gal), 0.5%, 0.5% (0.0325 lb/gal), 0.625% (0.041 lb/gal), 0.85% (0.057 lb/gal), 1.25%, 1.25% (0.0825 lb/gal), 1.39%)
PrL (0.03%, 0.05%, 0.07%, 0.08%, 0.1%, 0.11%, 0.129%, 0.15%, 0.162%, 0.1625%, 0.2%, 0.252%, 0.26%, 0.3%, 0.363%, 0.4%, 0.5%, 0.6%, 1%, 2.5%)

GENERAL WARNINGS AND LIMITATIONS: This report is a combination of data and information (sites, pests, dosages, and use instructions) from the latest registered and accepted labels of allethrin (allyl homolog of cinerin I) (004001) and allethrin coil (004002). Allethrin coil (largely in the form of impregnated materials, i.e. mosquito coils) is almost exclusively used for the outdoor control of adult mosquitoes. For formulation purposes, the percentage of allethrin coil was used when both ingredients occur together on the same registration number. Allethrin is toxic to fish. Keep out of lakes, streams, or ponds. Do not contaminate water by cleaning of equipment or disposal of wastes.
Diluents: Emulsifiable concentrate formulations may be diluted with water or oil. Dilute soluble concentrate formulations with appropriate oil-based solvents such as diesel oil or kerosene and other odorless petroleum solvents. When using pressurized liquid formulations, hold container only in upright position to spray. Shake well before using and hold container 6 to 12 inches from surface.

*allethrin
allethrin coil

GENERAL WARNINGS AND LIMITATIONS (continued)

Agricultural Crop Tolerances (other than those listed in the text):

Artichokes, Jerusalem	Exempt
Beets	Exempt
Beets, sugar	Exempt
Cabbage, Chinese	Exempt
Carrots	Exempt
Chickory	Exempt
Garlic	Exempt
Guavas (postharvest)	4 ppm
Leeks	Exempt
Loganberry (postharvest)	4 ppm
Mango (postharvest)	4 ppm
Onions	Exempt
Salsify	Exempt
Shallots	Exempt
Sweet Potato	Exempt
Tomato (postharvest)	4 ppm

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	TERRESTRIAL FOOD CROP		
	(Agricultural Crops)		
/23001AA	Alfalfa		No tolerance established. 1 day preharvest interval through 2 pints of 0.9 percent emulsifiable concentrate formulation per acre for foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre.
IRACAAA	Aphids	[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/04001AA /05004AA /04003AA	Apple Peach Pear		4 ppm (postharvest) No preharvest interval through 1 quart of 1 percent emulsifiable concentrate formulation per acre for foliar application.
IRACAAA	Aphids	[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.
IRACAAA ITBGAZA IMAAAGA ITBUAPA	Aphids Codling moth Leafminers Redbanded leaf-roller	1 qt 1% EC/A (1% EC)	Foliar application. Apply in 200 to 500 gallons of water per acre by high volume ground equipment or in 2 to 5 gallons of water per acre by low volume ground equipment.
/15027AA	Beans		Exempt No preharvest interval through 1.5 pints of 1 percent emulsifiable concentrate formulation per acre for foliar application.
IRACAAA IMAAAGA	Aphids Leafminers	[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.
IRACAAA IRAFAAA INAPAFA INAMBFA IRABAAA	Aphids Leafhoppers Mexican bean beetle Spotted cucumber beetle Whiteflies	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC)	Foliar application. Formulated with piperonyl butoxide.
ITBCCFA IMAAAGA ITAAAOA IQAMAAA	Armyworm Leafminers Loopers Plant bugs	1-1.5 pt 1% EC/A (1% EC)	Foliar application. Apply in 1 to 3 gallons of water per acre by aircraft or low volume ground equipment.

EPA Compendium of Acceptable Uses

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/13005AA	Broccoli		Exempt No preharvest interval through 1.5 pints of 1 percent emulsifiable concentrate formulation per acre for foliar application.
/13006AA	Brussels Sprouts		
/13007AA	Cabbage		
/13008AA	Cauliflower		
/13009AA	Collards		
/13011AA	Kale		
/13021AA	Mustard Greens		
/28022AA	Turnips		
ISASAAA	Ants	1-1.5 pt 1% EC/A (1% EC)	Foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre.
IRACAAA	Aphids		
ITBCCFA	Armyworm		
ITBMBHA	Cross-striped cabbageworm		
ITBCABA	Cutworms	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC)	Foliar application. Formulated with piperonyl butoxide.
ITBWAFC	Diamondback moth (larvae)		
INAMADA	Flea beetles		
IQAQAKA	Harlequin bug		
ITBJAHA	Imported cabbageworm		
IRAFAAA	Leafhoppers		
IMAAAGA	Leafminers		
ITAAAOA	Loopers (including cabbage looper)		
ILAAABA	Mites		
IQAMAAA	Plant bugs		
IQAQAAA	Stink bugs		
INASAAA	Weevils		
IRACAAA	Aphids	[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.
	Brussels Sprouts		See Broccoli cluster.
	Cabbage		See Broccoli cluster.
	Cauliflower		See Broccoli cluster.

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28003AA	Celery		Exempt No preharvest interval through 1.5 pints of 1 percent emulsifiable concentrate formulation per acre for foliar application.
/13024AA	Spinach		
ISASAAA	Ants	1-1.5 pt 1% EC/A (1% EC)	Foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre.
IRACAAA	Aphids		
ITBCCFA	Armyworm		
INAAAAA	Beetles		
ITBCABA	Cutworms		
IRAFAAA	Leafhoppers		
IMAAAGA	Leafminers		
ITAAAOA	Loopers (including cabbage looper)		
ILAAABA	Mites		
IRAMAAA	Plant bugs		
ITBCBOA	Tomato fruitworm		
INASAAA	Weevils		
IRACAAA	Aphids	[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.
IMAAAGA	Leafminers		
/02000AA	Citrus Fruits		Exempt No preharvest interval through 1 quart of 1 percent emulsifiable concentrate formulation per acre for foliar application.
IRACAAA	Aphids	1 qt 1% EC/A (1% EC)	Foliar application. Apply by high volume ground equipment in 200 to 600 gallons of water per acre.
		[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.

EPA Compendium of Acceptable Uses

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/23003AA	Clover		Exempt 1 day preharvest interval through 2 pints of 0.9 percent emulsifiable concentrate formulation per acre for foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre.
/28016AA	Peas		
/14013AA	Potato		
/25003AA	Sugarcane		
IRACAAA	Aphids	[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.
	Collards		See Broccoli cluster.
/10000AA	Cucurbits		4 ppm (postharvest) 1 day preharvest interval through 2 pints of 0.9 percent emulsifiable concentrate formulation per acre for foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre.
IRACAAA	Aphids	[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.
/13015AA	Endive		Exempt No preharvest interval through 1.5 pints of 1 percent emulsifiable concentrate formulation per acre for foliar application.
/28011AA	Horseradish		
/13012AA	Kohlrabi		
/13022AA	Parsley		
/14015AA	Rutabaga		
ISASAAA	Ants	1-1.5 pt 1% EC/A (1% EC)	Foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre.
IRACAAA	Aphids		
ITBCCFA	Armyworm		
INAAAAA	Beetles		
ITBCABA	Cutworms		
IRAFAAA	Leafhoppers		
IMAAAGA	Leafminers		
ITAAAOA	Loopers (including cabbage looper)		
ILAAABA	Mites		
IRAMAAA	Plant bugs		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Endive cluster (continued)		
	Pest list continued from previous page.		
ITBCBOA	Tomato fruitworm		
INASAAA	Weevils		
	Horseradish		See Endive cluster.
	Kale		See Broccoli cluster.
	Kohlrabi		See Endive cluster.
/13020AA	Lettuce		Exempt No preharvest interval through 1.5 pints of 1 percent emulsifiable concentrate formulation per acre for foliar application.
ISASAAA	Ants	1-1.5 pt 1% EC/A (1% EC)	Foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre.
IRACAAA	Aphids		
ITBCCFA	Armyworm		
INAAAAA	Beetles		
ITBCABA	Cutworms		
IRAFAAA	Leafhoppers		
IMAAAGA	Leafminers		
ITAAAOA	Loopers (including cabbage looper)		
ILAAABA	Mites		
IRAMAAA	Plant bugs		
ITBCBOA	Tomato fruitworm		
INASAAA	Weevils		
IRACAAA	Aphids	[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.
IMAAAGA	Leafminers		
ITBCCSA	Cabbage looper	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC)	Foliar application. Formulated with piperonyl butoxide.
ITBWAFC	Diamondback moth (larvae)		
IRACCUA	Green peach aphid		
ITBJAHA	Imported cabbageworm		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Mustard Greens		See Broccoli cluster.
	Parsley		See Endive cluster.
	Peach		See Apple cluster.
	Pear		See Apple cluster.
	Peas		See Clover cluster.
/28017AA	**Peppers**		Exempt No preharvest interval through 1.5 pints of 1 percent emulsifiable concentrate formulation per acre for foliar application.
ISASAAA	Ants	1-1.5 pt 1% EC/A (1% EC)	Foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre.
IRACAAA	Aphids		
ITBCCFA	Armyworm		
INAAAAA	Beetles		
ITBCABA	Cutworms		
IRAFAAA	Leafhoppers		
IMAAAGA	Leafminers		
ITAAAOA	Loopers (including cabbage looper)		
ILAAABA	Mites		
IRAMAAA	Plant bugs		
ITBCBOA	Tomato fruitworm		
INASAAA	Weevils		
IRACAAA	Aphids	[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.
IMAAAGA	Leafminers		
IRACCUA	Green peach aphid	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC)	Foliar application. Formulated with piperonyl butoxide.
	Potato		See Clover cluster.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/14014AA	Radish		Exempt No preharvest interval through 1.5 pints of 1 percent emulsifiable concentrate formulation per acre for foliar application.
ISASAAA	Ants	1-1.5 pt 1% EC/A (1% EC)	Foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre.
IRACAAA	Aphids		
ITBCCFA	Armyworm		
INAAAAA	Beetles		
ITBCABA	Cutworms		
IRAFAAA	Leafhoppers		
IMAAAGA	Leafminers		
ITAAAOA	Loopers (including cabbage looper)		
ILAAABA	Mites		
IRAMAAA	Plant bugs		
ITBCBOA	Tomato fruitworm		
INASAAA	Weevils		
IRACAAA	Aphids	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC)	Foliar application. Formulated with piperonyl butoxide.
INAMADA	Flea beetles		
	Rutabaga		See Endive cluster.
/28019AA	Sorghum		Exempt (grain, milo) 1 day preharvest interval through 2 pints of 0.9 percent emulsifiable concentrate formulation per acre for foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre.
IRACAAA	Aphids	[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.
	Spinach		See Celery cluster.
	Sugarcane		See Clover cluster.

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	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/11005AA	Tomato		Exempt No preharvest interval through 36 fluid ounces of 2.5 percent emulsifiable concentrate formulation per acre for foliar application.
ISASAAA	Ants	1-1.5 pt 1% EC/A (1% EC)	Foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre.
IRACAAA	Aphids		
ITBCCFA	Armyworm		
INAAAAA	Beetles		
ITBCABA	Cutworms		
IRAFAAA	Leafhoppers		
IMAAAGA	Leafminers		
ITAAAOA	Loopers (including cabbage looper)		
ILAAABA	Mites		
IRAMAAA	Plant bugs		
ITBCBOA	Tomato fruitworm		
INASAAA	Weevils		
IRACAAA	Aphids	[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.
IMAAAGA	Leafminers		
INAMCFA	Colorado potato beetle	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC)	Foliar application. Formulated with piperonyl butoxide.
INAMADA	Flea beetles		
IRACCUA	Green peach aphid		
IQAQAAA	Stink bugs		
	Turnips		See Broccoli cluster.
	TERRESTRIAL NONFOOD CROP		
	(Ornamental Plants and Forest Trees)		
/33010AA	Ornamental Lawns and Turf		
ITBCCFA	Armyworm	1-2 pt 1% EC/A (1% EC)	Foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre. Repeat as needed.
ILAAABA	Mites		
IRAEAAA	Spittlebugs		

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/32000AA /32000DA	Ornamental Plants (including African violets, ageratum, althea, amaranthus, asparagus fern, aster, azalea, begonia, birch, broadleaf acacia, camellia, carnation, Christmas cactus, chrysanthemum, coleus, croton, cypress, dahlias, daisies, daphne, dracaena, dogwood, euonymus, false aralia, fatshedera, flowering crabapple, forsythia, fuchsia, geranium, gladiolus, heliotrope, hemlock, hibiscus, holly, honeysuckle, impatiens, iris, ivy, jade, lilac, lobelia, locust, maple, marigold, mimosa, nasturtium, oak, ornamental citrus, ornamental cranberry, palm, peony, petunia, philodendron, pine, pothos, pyracantha, queen sago, rhododendron, rose, rubber plant, silver vine, snapdragon, spirea, spruce, tobira, toyon, umbrella tree, verbena, viburnum, wandering jew, wax plant and zinnia) (including nursery stock)		
IRACAAA	Aphids	1-1.5 pt 1% EC/A (1% EC)	Foliar application. Apply by aircraft or low volume ground equipment in 1 to 3 gallons of water per acre.
ITBCCFA	Armyworm		
ITBCABA	Cutworms		
INAMADA	Flea beetles		
ITAXAIA	Gypsy moth		
ITAXAIA	Japanese beetle	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC) or 0.16-0.4% finished spray (0.1625-0.4% PrL)	Foliar application. Formulated with one or a combination of: piperonyl butoxide and resmethrin.
IQAXAAA	Lace bugs		
INAMAAA	Leaf beetles		
IRAFAAA	Leafhoppers		
ILAAABA	Mites (including spider mites)		
ITBNAOA	Oakworms		
IQAMAAA	Plant bugs		
ISAAABA	Sawflies		
IGDAACA	Slugs		
IRAEAAA	Spittlebugs		
ITAUADA	Tent caterpillars		
IMOAAAA	Thrips		
ITAXAAA	Tussock moths		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Ornamental Plants cluster (continued)		
	Pest list continued from previous page.		
INASAAA	Weevils		
IRABAAA	Whiteflies		
IRACAAA	Aphids	[SLN] [MAI] 1-2 pt 0.9% EC/A (0.9% EC)	SLN - Use limited to FL. Foliar application. Repeat at 5 to 7 day intervals or as needed. Formulated with rotenone and cube resins other than rotenone.
IMAAAGA	Leafminers		
	(Noncrop, Wide Area, and General Indoor/Outdoor Treatments)		
/670020A /630030A /77000JA	Recreational Areas (including beaches, camp sites, parks, picnic areas, recreational areas, resorts, schools, and sports arenas)		
/680000A	Wide Area and General Indoor/Outdoor Treatments		
IOAAAAA	Flies (including gnats and mosquitoes)	[MAI] 0.005-0.0125 lb/A [undiluted] (2.5-12.51% SC/L) or 1:4 dilution (3.75% SC/L) or 0.125-1.25% finished spray (0.125-1.25% RTU)	Outdoor application. Apply by conventional thermal, mechanical, compressed air fogging or spraying equipment. Apply as a fog or fine mist in the evening or early morning when wind velocity does not exceed 5 miles per hour. Direct spray into vegetation where pests may hover or rest. Avoid wetting foliage. Repeat as needed, usually within a 7 day period. When applied in public gathering places such as open sports stadia and parks, application will provide temporary reduction of annoyance of pests. Apply prior to attendance. When using mobile or truck mounted equipment, disperse product at the following flow rates:
ITAAABA	Moths		

Truck Speed (miles per hour)	Flow Rate (fl.oz/min.)
5	12 to 15
10	24 to 30

Delivery rates and travelling speeds can be varied slightly so

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Recreational Areas cluster (continued)		
			long as the desired actual ingredient per acre is obtained. Use a swath width of 300 feet for acreage calculations. Formulated with one or a combination of: malathion and piperonyl butoxide.
/67002CA	(Recreational Areas)		
IDAMAAA	Mosquitoes	[MAI] -- (0.35-0.45% Impr)	Outdoor application. Apply repellant (mosquito coil) in places frequented by pests. Place coil about 6 to 10 feet around area to be protected. Formulated with one or a combination of: benzoic acid and pyrethrum powder other than pyrethrins.
	GREENHOUSE FOOD CROP		
	(Agricultural Crops)		
/15027CA	Beans (greenhouse)		Exempt No preharvest interval through 36 fluid ounces of 2.5 percent emulsifiable concentrate formulation per acre for foliar application to greenhouse grown plants.
IRACAAA	Aphids	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC)	Foliar application to greenhouse grown plants. Formulated with piperonyl butoxide.
IRAFAAA	Leafhopper		
INAPAFA	Mexican bean beetle		
INAMBFA	Spotted cucumber beetle		
IRABAAA	Whiteflies		

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ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/13005CA	Broccoli (greenhouse)		Exempt No preharvest interval through 36 fluid ounces of 2.5 percent emulsifiable concentrate formulation per acre for foliar application to greenhouse grown plants.
/13006CA	Brussels Sprouts (greenhouse)		
/13007CA	Cabbage (greenhouse)		
/13008CA	Cauliflower (greenhouse)		
/13009CA	Collards (greenhouse)		
/13011CA	Kale (greenhouse)		
/13021CA	Mustard Greens (greenhouse)		
/28022CA	Turnips (greenhouse)		
IRACAAA	Aphids	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC)	Foliar application to greenhouse grown plants. Formulated with piperonyl butoxide.
ITBCCSA	Cabbage looper		
ITBMBHA	Cross-striped cabbageworm		
ITBWAFC	Diamondback moth (larvae)		
INAMADA	Flea beetles		
IQAQAKA	Harlequin bug		
ITBJAHA	Imported cabbage worm		
IQAQAKA	Stink bugs		
	Brussels Sprouts (greenhouse)		See Broccoli (greenhouse) cluster.
	Cabbage (greenhouse)		See Broccoli (greenhouse) cluster.
	Cauliflower (greenhouse)		See Broccoli (greenhouse) cluster.
	Collards (greenhouse)		See Broccoli (greenhouse) cluster.
	Kale (greenhouse)		See Broccoli (greenhouse) cluster.
/13020CA	Lettuce (greenhouse)		Exempt No preharvest interval through 36 fluid ounces of 2.5 percent emulsifiable concentrate formulation per acre for foliar application to greenhouse grown plants.
ITBCCSA	Cabbage looper	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC)	Foliar application to greenhouse grown plants. Formulated with piperonyl butoxide.
ITBWAFC	Diamondback moth (larvae)		
IRACCUA	Green peach aphid		
ITBJAHA	Imported cabbageworm		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/16003CA	Mushroom Houses		Exempt (mushrooms) Premise treatment through 2 pints of 1 percent emulsifiable concentrate formulation per acre.
IOAYABA	Phorid mushroom flies	1-2 pt 1% EC/A (1% EC)	Premise treatment. Apply in 1 to 3 gallons of water per acre by low volume ground equipment.
IOBFACA	Sciarid mushroom flies		
		[MAI] 0.1-0.25% finished spray [1 fl.oz/ 1,000 cu.ft] (2.5%-12.51% SC/L) or 1.25% finished spray [1 fl.oz/ 1,000 cu.ft] (1.25% RTU)	Premise treatment. Apply by mechanical fogging equipment. Fogger should be operated 8 to 10 feet away from beds and directed slightly upwards. Formulated with piperonyl butoxide.
		Refer INDOOR, (Commercial and Industrial Uses), Food Processing Plants (Indoor, Edible) for additional information.	
	Mustard Greens (greenhouse)		See Broccoli (greenhouse) cluster.
/28017CA	Peppers (greenhouse)		Exempt No preharvest interval through 36 fluid ounces of 2.5 percent emulsifiable concentrate formulation per acre for foliar application to greenhouse grown plants.
IRACCUA	Green peach aphid	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC)	Foliar application to greenhouse grown plants. Formulated with piperonyl butoxide.

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ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/14014CA	Radish (greenhouse)		Exempt No preharvest interval through 36 fluid ounces of 2.5 percent emulsifiable concentrate formulation per acre for foliar application to greenhouse grown plants.
IRACAAA INAMADA	Aphids Flea beetles	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC)	Foliar application to greenhouse grown plants. Formulated with piperonyl butoxide.
/11005CA	Tomato (greenhouse)		Exempt No preharvest interval through 36 fluid ounces of 2.5 percent emulsifiable concentrate formulation per acre for foliar application to greenhouse grown plants.
INAMCFA INAMADA IRACCUA IQAQAAA	Colorado potato beetle Flea beetles Green peach aphid Stink bugs	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC)	Foliar application to greenhouse grown plants. Formulated with piperonyl butoxide.
	Turnips (greenhouse)		See Broccoli (greenhouse) cluster.

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	GREENHOUSE NONFOOD CROP		
	(Ornamental Plants and Forest Trees)		
/32000CA /32000DA	Ornamental Plants (including African violets, ageratum, althea, amaranthus, asparagus fern, aster, azalea, begonia, birch, broadleaf acacia, camellia, carnation, Christmas cactus, chrysanthemum, coleus, croton, cypress, dahlias, daisies, daphne, dracaena, dogwood, euonymus, false aralia, fatshedera, forsythia, fuchsia, geranium, gladiolus, heliotrope, hemlock, hibiscus, holly, honeysuckle, impatiens, iris, ivy, jade, lilac, lobelia, locust, maple, marigold, mimosa, nasturtium, oak, ornamental citrus, ornamental cranberry, palm, peony, petunia, philodendron, pine, pothos, pyracantha, queen sago, rhododendron, rose, rubber plant, silver vine, snapdragon, spirea, spruce, tobira, toyon, umbrella tree, verbena, viburnum, wandering jew, wax plant and zinnia) (greenhouse)		
IRACAAA	Aphids	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC) or 0.16-0.4% finished spray (0.1625-0.4% PrL)	Foliar application to greenhouse grown plants. Formulated with one or a combination of: piperonyl butoxide and resmethrin.
ITBCCFA	Armyworm		
ITBCABA	Cutworms		
INAMADA	Flea beetles		
ITAXAIA	Gypsy moth		
ITAXAIA	Japanese beetle		
IQAXAAA	Lace bugs		
INAMAAA	Leaf beetles		
IRAFAAA	Leafhoppers		
ILAAABA	Mites (including spider mites)		
ITBNADA	Oakworms		
IQAMAAA	Plant bugs		
ISAAABA	Sawflies		
IGDAACA	Slugs		
IRAEAAA	Spittlebugs		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Ornamental Plants (continued)		
	Pest list continued from previous page.		
ITAUADA	Tent caterpillars		
IMOAAAA	Thrips		
ITAXAAA	Tussock moths		
INASAAA	Weevils		
IRABAAA	Whiteflies		

DOMESTIC OUTDOOR

General Warnings and Limitations: Allethrin is highly toxic to fish. Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). Drift from treated areas may be hazardous to organisms in adjacent aquatic sites. Do not contaminate water by cleaning of equipment or disposal of wastes.

(Domestic Dwellings)

/630030A	Domestic Dwellings, Outdoor		
ISASAAA	Ants	0.17% finished spray (1% EC) [MAI] 0.1-0.25% finished spray (2.5-12.51% SC/L) or 0.125-1.25% finished spray (0.125-1.25% RTU) or 0.03-0.252% finished spray (0.03-0.252% PrL)	Outdoor application. Apply as a coarse, wet spray. For ants, apply over and around ant hills directly. For brown dog tick, apply to grass and under shrubbery, particularly near house. For flies, mosquitoes, and wasps, apply on screens, walls, door and around window frames, light fixtures and other outdoor surfaces where pests congregate. For hornets, mud dauber wasp, and paper nest wasp, thoroughly soak wasp nests after dark when pests have returned to their nests. For scorpions and spiders, spray directly on pests when possible. Treat surfaces of garages and out-buildings where pests congregate. Spray points of entry such as around window frames and along crevices. May be formulated with one or a combination of: methoxychlor, isobornyl thiocyanoacetate, O-isopropoxyphenyl methylcarbamate,
ISAAACA	Bees		
IQAUACA	Boxelder bug		
ILAWAAA	Chigger mites		
ILAVABA	Clover mite		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IMDAAAA	Earwigs		
IMNAAAA	Fleas		
IOAAAAA	Flies (including gnats, mosquitoes, and stable fly)		
ITAAABA	Moths		
IJEBAAA	Scorpions		
IMPBACA	Silverfish		
ITASAAA	Skippers		
IIFAAEA	Sowbugs		
IKAAAAA	Spiders		
IMCAAAA	Springtails		
ILAAAAA	Ticks (including brown dog tick)		
ITAJAAA	Wasps (including hornets, mud dauber		

Domestic Dwellings, Outdoor (continued)

Pest list continued from previous page.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	wasp, and paper nest wasp)		MGK, diazinon, piperonyl butoxide, and vapona.
		[MAI] 0.05-0.5% finished spray (0.05-5% EC) (0.1% RTU) (0.05-0.1% PrL)	Outdoor application. To help prevent infestation of buildings, apply as a band 5 to 10 feet wide around and adjacent to buildings where pests are active and may find entrance. Treat a band of soil 6 to 10 feet wide around and adjacent to the building and also the building foundation to a height of 2 to 3 feet where pests are active and may find entrance for spray formulations. Apply as a coarse spray to thoroughly and uniformly wet the band area. Formulated with chlorpyrifos.
ISASBDA	Imported fire ants	[MAI] 0.05-0.14% finished spray (0.05-5% EC) (0.05-0.1% PrL)	Outdoor application. Apply to mound using a sprinkler can. Wet the mound and surrounding area to a 4 foot diameter. Apply in cool weather or in early morning or late evening hours. Treat new mounds as they appear. Do not disturb mound prior to treatment. Formulated with chlorpyrifos.
IOAMAAA	Mosquitoes	[MAI] -- (0.35-99.8% Impr)	Outdoor application. Apply repellant (mosquito coil) in places frequented by pests. Place coil about 6 to 10 feet around patios, porches, and other places where there is little or no breeze. Formulated with one or a combination of: benzoic acid, 2,4-dinitrophenol, malachite green, pyrethrum powder other than pyrethrins, pyrethrin coils, and potassium nitrate.

Refer to TERRESTRIAL NONFOOD CROP, (Noncrop, Wide Area, and General Indoor/Outdoor Treatments), Recreational Areas cluster for additional information.

EPA Compendium of Acceptable Uses

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	AQUATIC NONFOOD		
	(Aquatic Sites)		
/65000MA /65000MB	Aquatic Sites		
IDAMAAC	Mosquitoes (larvae)	[MAI] 0.007-0.02% finished spray [20-25 gal/A] (2.5-12.51% SC/L)	Water and water-related surface treatment. Apply as a coarse wet spray to the border or on the shallow water of wet lands, swamps and marshes infested with pests. Formulated with piperonyl butoxide.
IDAMAAJ	Mosquitoes (adults)	[MAI] 1.25% finished spray [10 fl.oz/A] (1.25% RTU)	Water-related surface treatment. Apply as a fine mist to areas where pests may rest including low marshy areas, stagnant pools or ponds, and shore lines. Formulated with piperonyl butoxide.

EPA Compendium of Acceptable Uses

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	INDOOR		

General Warnings and Limitations: Do not contaminate water by disposal of wastes. Remove pets and birds from cages and cover fish aquariums before spraying. Do not remain in treated areas. Ventilate the area after treatment is completed. Do not apply as a space spray while food processing is underway. When applied as a surface spray with care and in accordance with stated directions and precautions, food processing operations may continue except in federally inspected meat and poultry plants. Foods should be removed or covered before treatments. Thoroughly wash all treated food processing surfaces before reuse. In federally inspected meat and poultry plants, all surfaces in processing areas must be washed and rinsed in potable water after spraying. In other food processing plants, if washing of equipment, benches, shelving, etc., where exposed food will be handled, is impractical, do not allow food to come in contact with treated surfaces for at least 48 hours.

(Agricultural Crops)

/04001EA	Apple (postharvest)		4 ppm (postharvest) Postharvest application through 0.012 percent emulsion dip.
/01002EA	Blackberry (postharvest)		
/01009EA	Blueberry (postharvest)		
/01003EA	Boysenberry (postharvest)		
/05002EA	Cherry (postharvest)		
/04002EA	Crabapple (postharvest)		
/01011EA	Currant (postharvest)		
/01004EA	Dewberry (postharvest)		
/01014EA	Grapes (postharvest)		
/10006EA	Muskmelons (postharvest)		
/02006EA	Orange (postharvest)		
/05004EA	Peach (postharvest)		
/04003EA	Pear (postharvest)		
/06013EA	Pineapple (postharvest)		
/05005EA	Plum (postharvest)		
/01006EA	Raspberry (postharvest)		
IOAPABA IOBMAAA	Drosophila Fruit flies	[MAI] 0.012% emulsion dip or 4 pt 2.5% EC/ 100 gal (2.5% EC)	Postharvest application. Apply by dipping fruits into emulsion. Application may be made in storage, processing plants or in the field at the time of harvest. Formulated with piperonyl butoxide.

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ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28063EA	Barley		Exempt (corn, sorghum) 2 ppm (postharvest for barley grain, corn grain, oat grain, rye grain, sorghum grain, and wheat grain) Stored commodity treatment through 0.5 percent finished spray.
/28063GA	Barley (equipment)		
/28006EA	Corn		
/28006GA	Corn (equipment)		
/28062EA	Oats		
/28062GA	Oats (equipment)		
/28071EA	Rye		
/28071GA	Rye (equipment)		
/28019EA	Sorghum		
/28019GA	Sorghum (equipment)		
/28065EA	Wheat		
/28065GA	Wheat (equipment)		
ITAMASA	Angoumois grain moth	[MAI] 0.1-0.5% finished spray [5 gal/1,000 bu or 1 gal/1,000 sq.ft of grain] (2.5-15% EC) (5-12.51% SC/L) (0.25% RTU)	Stored commodity treatment. Apply as the grain is going into storage. Apply evenly onto the grain at such a point that the grain will be tumbled and mixed before it enters the storage bin. For large installations, such as terminal and mill elevators, application should be made on the conveyor belt just ahead of the tripper. For country and line elevators it should be made as the grain enters the auger conveyor or at any convenient point prior to the grain entering the bin. Under farm storage conditions, the spray should be applied into the hopper of the auger, hiker or conveyor. Small lots of grain may be sprayed and then mixed by hand. To control accessible adult stages of Indianmeal moth and angoumois grain moth, apply to the surface of binned grain. Apply at 30 day intervals with the first appearance of moths and continue until early early fall. In severe infestations, break up the webbing with a rake before spraying and make a second application in 14 days. Formulated with piperonyl butoxide.
INBUATA	Confused flour beetle		
INARAEA	Flat grain beetle		
INASEKA	Granary weevils		
ITBMCHA	Indianmeal moth		
INABAEA	Lesser grain moth		
INASDRA	Rice weevil		
INARAGA	Sawtoothed grain beetle		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Barley cluster (continued)		
		[MAI] 0.25-0.5% finished spray [1 gal/750 sq.ft] (15% EC)	Application to storage areas. Sweep and clean bin thoroughly before the grain is to be stored. Apply product after cleaning using ground equipment. Wet the ceilings, walls, and partition boards to kill pests in cracks and crevices. Formulated with piperonyl butoxide.
/43027EA	Food (stored)		No tolerance established. Stored commodity treatment through 5 percent finished spray.
ITAMASA	Angoumois grain moth	[MAI] 5% finished spray [1 fl.oz/ 1,000 cu.ft] (5% SC/L) or 0.25% finished spray (0.25% RTU)	Stored commodity treatment. Apply as an indoor space spray to warehouses and storage areas of stored food (in multi-walled bags or in cloth bags). Remove and destroy infested products. Apply by directing spray into corners, under pallets, and around stacks of packaged foods, hitting as many pests as possible. Repeat as needed. Leave the room closed for 1 hour. Do not remain in treated areas and ventilate before re-entry. Formulated with piperonyl butoxide.
INBVACA	Cadelle		
ILABAFA	Cheese mite		
IOAZABA	Cheese skipper		
INABADA	Cigarette beetle		
INBUATA	Confused flour beetle		
INBUAQA	Dark mealworm		
ILABABA	Grain mite		
INASEKA	Granary weevils		
ITBMCHA	Indianmeal moth		
ITBMAIA	Mediterranean flour moth		
INBUASA	Red flour beetle		
INASDRA	Rice weevil		
INARAGA	Sawtoothed grain beetle		
INBUAPA	Yellow mealworm		

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28025EA	Fruits (dried)		4 ppm (postharvest for apple, blackberry, blueberry, boysenberry, fig, grape, guava, loganberry, mango, muskmelon, orange, peach, pear, pineapple, plum, and raspberry) Storage area application through 5 percent finished spray.
INBUATA	Confused flour beetle	[MAI] 5% finished spray [1 fl.oz/ 1,000 cu.ft] (5% SC/L)	Application to storage areas. Apply as a fine mist in the air above the trays and shelves of dried fruit processing and storage areas. Do not apply to fruit directly. Repeat at 30 day intervals. Leave the room closed for 1 hour. Do not remain in treated areas and ventilate before reentry. Formulated with piperonyl butoxide.
INBJACA	Dried fruit beetle		
ITBMCHA	Indianmeal moth		
INARAGA	Sawtoothed grain beetle		
	(Ornamental Plants and Forest Trees)		
/32000FA	Ornamental Plants (including African violets, ageratum, althea, amaranthus, asparagus fern, aster, azalea, begonia, camellia, carnation, Christmas cactus, chrysanthemum, coleus, croton, cypress, dahlias, daisies, daphne, dracaena, false aralia, fatshedera, fuchsia, geranium, gladiolus, heliotrope, honeysuckle, impatiens, iris, ivy, jade, lilac, lobelia, marigold, mimosa, nasturtium, ornamental citrus, ornamental cranberry, palm, peony, petunia, philodendron, pine, pothos, pyracantha, queen sago, rose, snapdragon, spirea, spruce, rubber plant, silver vine, tobira, toyon, umbrella tree, verbena, wandering jew, wax plant and zinnia) (houseplant)		

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Ornamental Plants (continued)		
IRACAAA	Aphids	[MAI] 12-36 fl.oz 2.5% EC/100 gal/A or 1-3 tbls 2.5% EC/gal (2.5% EC) or 0.16-0.4% finished spray (0.1625-0.4% PrL)	Houseplant treatment. Apply to foliage. Formulated with one or a combination of: piperonyl butoxide and resmethrin.
ITBCCFA	Armyworm		
ITBCABA	Cutworms		
INAMADA	Flea beetles		
ITAXAIA	Gypsy moth		
ITAXAIA	Japanese beetle		
IQAXAAA	Lace bugs		
INAMAAA	Leaf beetles		
IRAFAAA	Leafhoppers		
ILAAABA	Mites (including spider mites)		
ITBNAOA	Oakworms		
IQAMAAA	Plant bugs		
ISAAABA	Sawflies		
IGDAACA	Slugs		
IRAEAAA	Spittlebugs		
ITAUADA	Tent caterpillars		
IMOAAAA	Thrips		
ITAXAAA	Tussock moths		
INASAAA	Weevils		
IRABAAA	Whiteflies		
	(Pets and Domestic Animals)		
/54002IA	Cats		
/54003IA	Dogs		Do not treat or allow exposure of kittens or puppies less than 4 weeks old.
ILAQACA	Ear mite	[MAI] 0.01-0.17% finished spray (1.2-2.97% EC) (0.12% RTU) or 0.1-0.4% finished spray (0.1-0.4% PrL)	Animal treatment. Apply as a spray over the animal, beginning at the tail. Spray over the animal until the entire coat is dampened to the back of the neck. On long-haired pets, ruffle the coat and spray against the lay of the hair, spraying directly behind hand so that spray reaches skin. Avoid spraying face and genitals. For ear mite and ear tick, syringe the ears with a few drops of finished spray so that it can penetrate the wax down to the surrounding tissues. Repeat as needed.
IMNAAAA	Fleas		
IMAAADA	Lice		
ILAAACA	Ticks (including ear tick)		

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ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Cats cluster (continued)		
			Formulated with one or a combination of: piperonyl butoxide, pyrethrins, and resmethrin.
		[MAI] shampoo (0.12-0.15% RTU)	Animal treatment. Apply as a shampoo. As a precaution, a bland ophthalmic ointment may be placed in the eye prior to bathing to prevent possible irritation. Wet the entire hair coat thoroughly with warm water and then apply enough shampoo to make a lather and work into hair coat. Allow lather to remain in contact with skin for 5 minutes before rinsing. Formulated with one or a combination of: ethoxylated lanolin, piperonyl butoxide, and ammonium lauryl sulfate.
IOAAAFA IOAUADA IOAUAFA IOAMAAA	Gnats Horn fly House fly Mosquitoes	[MAI] 0.1-0.5% finished spray (2.95-2.97% EC) (5-12.51% SC/L) (0.1-0.4% PrL)	Animal treatment. Claim for control is limited to temporary protection or for repellant action. Apply as a spray over the animal. Repeat as needed. Formulated with one or a combination of: piperonyl butoxide, pyrethrins, and resmethrin.
/54003JA	**Kennels**		
ISASAAA IVAAABA IVAHAAA IMNAAAA IOAAAAA ILAAACA	Ants Cockroaches Crickets Fleas Flies (including gnats, horn fly, house fly, mosquitoes, and stable fly) Ticks (including brown dog tick)	[MAI] 0.05-0.5% finished spray (0.05-3.42% EC) (0.12-0.25% RTU) (0.1-0.4% PrL)	Premise treatment. Apply as a surface spray using a good sprayer adjusted to deliver a coarse wet spray. Apply with special attention to cracks and crevices and other hiding places. Fresh bedding should be provided for animals after each treatment. Repeat as needed. Formulated with piperonyl butoxide.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Kennels (continued)		
		[MAI] 0.6% finished spray (0.6% PrL)	Premise treatment. Apply as a spray fog treatment. Remove animals prior to application. After treatment, leave the area closed for 4 hours, then ventilate for 30 minutes. Formulated with piperonyl butoxide and resmethrin.
	(Animals and Their Man-Made Premises)		
/61000JA	Farm Animal Quarters		
/61001JA	Farm Building, Equipment, and Premises		
/56005JA	Horse Barn		
/56020JA	Zoos		
ISASAAA	Ants	[MAI] 0.25-0.5% finished spray (2.5-3.42% EC) or 0.25-1.25% finished spray (0.25-1.25% RTU)	Premise treatment. Apply as a coarse, wet surface spray. Apply to cracks, crevices, and other areas where pests hide. Repeat as needed. Formulated with one or a combination of: MGK 264 and piperonyl butoxide.
ILAVABA	Clover mite		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IOBKACA	Deer flies		
IOAUAEA	Face fly		
IMNAAAA	Fleas		
IOAAAFA	Gnats		
IOAUADA	Horn fly		
IOAUAFA	House fly		
IOAMAAA	Mosquitoes		
ITAAABA	Moths		
IOAUAHA	Stable fly		
ILAAAAA	Ticks (including brown dog tick)	0.17% finished spray (1% EC) [MAI] 0.08-0.6% finished spray [1-2 fl.oz/ 1,000 cu.ft] (1.875% EC) (2-12.51% SC/L) (0.25% RTU) (0.6% PrL)	Premise treatment. For flying insects, apply as a space spray using a fogger or a mist generator. Direct spray to the center of animal quarters distributing evenly as possible. Do not ventilate the area for at least 10 minutes after the spray has been applied. The 1 percent emulsifiable concentrate may be used at the same dilution in automatic systems and in ultra low volume equipment. May be formulated with one or a combination of: MGK 264, piperonyl butoxide, and resmethrin.
ITAJAAA	Wasps		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/56005IA /56008IA	Horses Ponies		Animal treatment through 2 fluid ounces of 1.25 percent finished spray.
IOBKACA IOAUAEA IOAAAFA IOAUADA IOAUAFA IOAMAAA	Deer flies Face fly Gnats Horn fly House fly Mosquitoes	[MAI] 0.1-0.5% finished spray (1-1.875% EC) (5-12.51% SC/L) or 0.25-1.25% finished spray [2 fl.oz/animal] (0.25-1.25% RTU)	Animal treatment. Apply as a wipe or as a spray. To use as a wipe, brush animal to remove excess dirt and dust. Moisten soft cloth (but do not wet to the point of dripping) and rub over the hair. It is best to apply by rubbing against the grain of the hair. Give special attention to the legs, shoulders, shanks, neck and facial areas where flies most often are seen. Only a light application is required. Avoid using an excessive amount on horses. After application, brush out thoroughly to bring out bright sheen on the coat. Repeat daily or as required. To use as a spray, apply as a fine mist spray to stable area and over and around stabled horses for fast paralysis and kill of flies. Do not wet horse's skin. Formulated with one or a combination of MGK 264 and piperonyl butoxide.
IMNAAAA IMAAADA ILAAAAA	Fleas Lice Ticks	[MAI] 0.03% finished spray (1.875% EC)	Animal treatment. Apply as a spray to thoroughly wet the skin of the animal. Repeat as needed. Formulated with piperonyl butoxide.
/55000JA	Poultry Houses		
ILAHABA	Chicken mite	[MAI] 0.033% finished spray (0.066% SC/L)	Premise treatment. Apply as a coarse spray to wet all surfaces and entire floor area, paying particular attention to cracks and crevices. Do not spray directly on fowl. Repeat as needed.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	(Agricultural Premises and Equipment)		
/610060A	Greenhouses (empty)		
/610120A	Seedhouses (empty)		
ISASAAA	Ants	[MAI] 0.6% finished spray (0.6% PrL)	Indoor application. Apply as a space treatment. Leave area closed for 4 hours and ventilate for 30 minutes after treatment. Formulated with piperonyl butoxide and resmethrin.
ISAAACA	Bees		
ISBAAAA	Centipedes		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IMDAAAA	Earwigs		
IDAAAAA	Flies (including fruit fly, gnats, house fly, mosquitoes, stable fly, and vinegar fly)		
IVABAAA	Grasshoppers		
ISBIADA	Hornets		
IJCAAAA	Millipedes		
ITAAABA	Moths		
IJEBAAA	Scorpions		
IMPBACA	Silverfish		
IIFAAEA	Sowbugs		
IKAAAAA	Spiders		
ILAAAAA	Ticks (including lone star tick and brown dog tick)		
ITAJAAA	Wasps		

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ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	(Household)		
/63006JB /630060A	Domestic Dwellings (Indoor, Food Handling Areas)		
ISASAAA	Ants	[MAI] 2.5-5% finished spray [0.5-1 fl.oz/1,000 cu.ft] (2.5-5% SC/L) or 0.25% finished spray (0.25% RTU) or 0.6% finished spray (0.6% PrL)	Indoor application. Apply as a space and contact spray treatment using a mechanical aerosol generator or a fogger adjusted to deliver an aerosol spray (no droplets over 50 microns in diameter and 80 percent less than 30 microns). Direct the spray first into all cracks and crevices, and behind all equipment, cupboards, obstructions or dark harbourage areas to provide maximum penetration and impingement on the insects. Then treat as a space spray, directing the spray towards the ceiling and upper corners of the area and behind any obstructions. Keep area closed for at least 1 hour. Vacate treated area and ventilate before reoccupying. Repeat as needed. Formulated with one or a combination of: piperonyl butoxide and resmethrin.
IQAFACA	Bed bug		
IQALACA	Boxelder bug		
INATAFA	Carpet beetle		
ISBAAAA	Centipedes		
ITBSABA	Clothes moths		
ILAVABA	Clover mite		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IMDAAAA	Earwigs		
IMNAAAA	Fleas		
IOAAAAA	Flies (including drosophila, gnats and mosquitoes)		
IMAAADA	Lice (including booklouse)		
IJCAAAA	Millipedes		
ITAAABA	Moths		
IJEBAAA	Scorpions		
IMPBACA	Silverfish		
IKAAAAA	Spiders		
IMAAAFA	Stored product insects (including angoumois grain moth, cadelle, cheese mite, cheese skipper, cigarette beetle, confused flour beetle, dark mealorm, drugstore beetle, grain mite, granary weevil, Indianmeal moth, Mediterranean flour moth, red rust flour beetle, rice weevil, saw-toothed grain beetle, spider beetle, spider		

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Domestic Dwellings (Indoor, Food Handling Areas) (continued)		
	Pest list continued from previous page.		
	beetles, and yellow mealworm) (exposed)		
ILAAAAA	Ticks (including brown dog tick and lone star tick)		
ITAJAAA	Wasps (including hornets)		
/630010A	Domestic Dwellings (Indoor)		
/630070A	Domestic Dwellings Contents		
ISASAAA	Ants	[MAI] 0.05-0.5% finished spray [1 gal/750 sq.ft] (0.05-5% EC) or 0.015% finished spray (0.03% SC/L) or 0.03-0.375% finished spray (0.03-0.375% RTU) or 0.03-0.5% finished spray (0.03-0.5% PrL)	Indoor application. Apply as a surface spray using a good sprayer adjusted to deliver a coarse wet spray. Direct the spray into hiding places, cracks and crevices, behind shelves and drawers. For ants, apply to shelves, cabinets, and storage areas. Spray ant runs, trails, baseboards, and other places of entry. Repeat as needed. For bed bug, spray mattresses lightly, particularly around tufts and seams. Take beds apart and spray in all joints. Treat baseboards, molding and floors. Repeat as needed. For brown dog tick and fleas, apply to infested areas around baseboards, window and door frames, wall cracks, sleeping quarters of household pets, and localized areas of floors and floor covering. For carpet beetle and clothes moths, remove infested articles from storage, brush thoroughly and, if possible air several hours in direct sunlight. Apply spray liberally in empty chests, closets, bureaus and storage sites, directing the liquid into cracks, joints and crevices. After airing, infested articles may be treated by hold-
IQAFACA	Bed bug		
IMMDACA	Booklouse		
IQAUACA	Boxelder bug		
INATAFA	Carpet beetle		
ISBAAAA	Centipedes		
ITBSABA	Clothes moth		
ILAVABA	Clover mite		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IMDAAAA	Earwigs		
IMNAAAA	Fleas		
IOAAAAA	Flies (including drosophila, gnats and mosquitoes)		
IMAAADA	Lice		
IJCAAAA	Millipedes		
ITAAABA	Moths		
IJEBAAA	Scorpions		
IMPBACA	Silverfish		
IKAAAAA	Spiders		
IMAAAFA	Stored product insects (including angoumois grain moth, cadelle, cheese mite, cheese skipper, cigarette beetle, confused flour beetle, dark		

EPA Compendium of Acceptable Uses

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Domestic Dwellings (Indoor) cluster (continued)

Pest list continued from previous page.

Site and Pest		Dosages and Formulation(s)	Tolerance, Use, Limitations
	mealworm, drugstore beetle, grain mite, granary weevil, Indianmeal moth, Mediterranean flour moth, red rust flour beetle, rice weevil sawtoothed grain beetle, spider beetles, and yellow mealworm) (exposed)		ing the spray nozzle at least 3 feet away from the fabric and applying the liquid lightly to the seams to avoid the possibility of staining. Treat both sides of rugs, carpets and pads, and all exposed and accessible surfaces of overstuffed furniture. Do not overspray if products are made of rubber or are rubber coated, to prevent possible expansion or swelling. Repeat treatments monthly unless the articles are stored in moth-tight containers. For silverfish, apply to drawers, shelves, around water pipes, storage areas, closets, behind and under cabinets, refrigerators, sinks, stoves, and in similar areas where these insects hide. For stored product insects, clean out and destroy any infested food products. Apply as or spray thoroughly to all surfaces of shelves, cabinets, pantries, and other food storage areas with particular attention to cracks, crevices, niches and other hiding places. Formulated with one or a combination of: O-isopropoxyphenyl methylcarbamate, MGK 264, N-octyl sulfoxide of isosafrole, chlorpyrifos, piperonyl butoxide, pyrethrins, and vapona.
ILAAAAA	Ticks (including brown dog tick)		
ITAJAAA	Wasps (including hornets)		
		0.17% finished spray (1% EC) or	Indoor application. Apply as a space spray using a fogger or a mist generator. Direct spray at an upward angle distributing it uniformly throughout the entire area. Keep area closed for at least 10 minutes. Ventilate and sweep up dead insects before reoccupying. May be formulated with piperonyl butoxide.

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Domestic Dwellings (Indoor) cluster (continued)		
		[MAI] 0.125-0.306% finished spray (2.5% EC) (0.25-0.375% RTU) or 0.5-2.5% finished spray [6 fl.oz/ 6,000 cu.ft] (0.5-2.5% PrL)	
IOAAAAA	Flies (including mosquitoes)	-- (10% Impr)	Indoor application. Apply impregnated materials using an electrical heater or a vapor-generating machine. To use the product, insert pads in the heater, then plug into an electrical outlet. Pests will be controlled by vapor produced by the heater. Reduce room ventilation as much as possible.
IOAAAAA	Flies (including fruit fly, gnats, house fly and mosquitoes)	1 pt 0.375% RTU/8,000-15,000 cu.ft (0.375% RTU)	Indoor application. Apply by using an electrical heater or a vapor-generating machine. Apply in accordance with the manufacturer's direction for the individual type of machine selected. Formulated with piperonyl butoxide.
ITAAABA	Moths		

EPA Compendium of Acceptable Uses

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	(Commercial and Industrial Uses)		
/77000JA /77000JB /16003JB	Commercial, Industrial and Institutional Areas (Indoor, Edible)		No tolerance established.
/72000JA /72000JB	Eating Establishments (Indoor, Edible)		
/71000JA /71000JB	Food Processing Plants (Indoor, Edible)		
ISASAAA	Ants	[MAI] 0.2-2.5% finished spray (2.5% EC) (2.5-12.51% SC/L) or 0.25-1.25% finished spray (0.25-1.25% RTU) or 0.1-0.16% finished spray (0.1-0.1625% PrL)	Indoor application. Apply as a surface spray using a good sprayer adjusted to deliver a coarse wet spray. Direct the spray into hiding places, cracks and crevices, behind shelves and drawers. For stored product insects, clean out and destroy any infested food products. Apply as a spray thoroughly to all surfaces of shelves, cabinets, pantries, and other food storage areas with particular attention to cracks, crevices, niches, and other hiding places. Formulated with one or a combination of: MGK 264 and piperonyl butoxide.
IQAFACA	Bed bug		
IQAUACA	Boxelder bug		
INATAFA	Carpet beetle		
ISBAAAA	Centipedes		
ITBSABA	Clothes moths		
ILAVABA	Clover mite		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IMDAAAA	Earwigs		
IOAAAAA	Flies (including drosophila, gnats and mosquitoes)		
IMAAADA	Lice		
IJCAAAA	Millipedes		
ITAAABA	Moths		
IMMAAAA	Psocids		
IJEBAAA	Scorpions		
IMPBACA	Silverfish	[MAI] 1.25-12.51% finished spray [1 fl.oz/1,000 cu.ft] (2.5-12.51% SC/L) (1.25% RTU)	Indoor application. Apply as a space and contact spray treatment. Direct the spray first into all cracks and crevices, and behind all equipment, cupboards, obstructions or dark harbourage areas to provide maximum penetration and impingement on the insects. Then treat as a space spray, directing the spray towards the ceiling and upper corners of the area and behind any obstructions. Keep area closed for at least 1 hour. Vacate treated area and ventilate before reoccupying. Repeat as needed. Formulated with piperonyl butoxide.
IKAAAAA	Spiders		
IMAAAFA	Stored product insects (including angoumois grain moth, cadelle, cheese mite, cheese skipper, cigarette beetle, confused flour beetle, dark mealworm, drugstore beetle, grain mite, granary weevil, Indianmeal moth, Mediterranean flour moth, red rust flour		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Commercial, Industrial and Institutional Areas (Indoor, Edible) cluster (continued)		
	beetle, rice weevil, saw-toothed grain beetle, spider beetles, and yellow mealworm) (exposed)	[MAI] 0.1-0.25% finished spray (2.5-12.51% SC/L) or 0.3-1.25% finished spray [1 fl.oz/ 1,000 cu.ft] (2.5% EC) (0.3-1.25% RTU) (0.5-0.6% PrL)	Indoor application. Apply as a space spray using a fogger or a mist generator. Direct spray at an upward angle distributing it uniformly throughout the entire area. Keep area closed for at least 10 minutes. Ventilate and sweep up dead insects before reoccupying. May be formulated with one or a combination of: MGK 264, piperonyl butoxide, and resmethrin.
ILAAAAA	Ticks (including brown dog tick)		
ITAJAAA	Wasps (including hornets)		
		[MAI] 0.033% finished spray (0.066% SC/L)	Formulated with N-octyl sulfoxide of isosafrole, piperonyl butoxide, and pyrethrins.
/77000JA /77000JC /77000GA /70000JC /70000JA /70000GA	Commercial, Industrial and Institutional Areas/Premises (Indoor, Inedible) Commercial Transportation Facilities		In empty mills, elevators and granaries, thoroughly spray the floors, walls and other surfaces of bins, storage and handling areas, with particular attention to cracks, crevices, and similar protected locations. For in-transit protection and control, treat truck beds, box cars and ships' holds before loading. For extended protection and control in warehouses and storage sites, treat exposed surfaces.
ISASAAA	Ants	[MAI] 0.05-0.5% finished spray [1 gal/750 sq.ft] (0.05-0.5% EC) or	Indoor application. Apply as a surface spray using a good sprayer adjusted to deliver a coarse wet spray. Direct the spray into hiding places, cracks and crevices, behind shelves and drawers. For stored product insects, clean out and destroy any infested food products. Apply as a spray thoroughly to all surfaces of
IQAFACA	Bed bug		
IQAUACA	Boxelder bug		
INATAFA	Carpet beetle		
ISBAAAA	Centipedes		
ITBSABA	Clothes moths		
ILAVABA	Clover mite		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IMDAAAA	Earwigs		

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Commercial, Industrial and Institutional Areas/Premises (Indoor, Inedible) cluster (continued)		
	Pest list continued from previous page.		
IMNAAAA IOAAAAA IMAAADA IJCAAAA ITAAABA IJEBAAA IMPBACA IKAAAAA IMAAAFA ILAAAAA ITAJAAA	Fleas Flies (including drosophila, gnats and mosquitoes) Lice (including booklouse) Millipedes Moths Scorpions Silverfish Spiders Stored product insects (including angoumois grain moth, cadelle, cheese mite, cheese skipper, cigarette beetle, confused flour beetle, dark mealworm, drugstore beetle, grain mite, granary weevil, Indianmeal moth, Mediterranean flour moth, red rust flour beetle, rice weevil, saw-toothed grain beetle, spider beetles, and yellow mealworm) (exposed) Ticks (including brown dog tick and lone star tick) Wasps (including hornets)	0.015-0.5% finished spray (0.03-3.75% SC/L) or 0.03-0.375% finished spray (0.03-0.375% RTU) or 0.03-0.4% finished spray (0.03-0.4% PrL) [MAI] 0.1-0.5% finished spray [1-6 fl.oz/ 1,000 cu.ft] (2.5% EC) (2-3.75% SC/L) (0.25-0.375% RTU) or 0.5-2.5% finished spray (0.5-2.5% PrL)	shelves, cabinets, pantries, and other food storage areas with particular attention to cracks, crevices, niches and other hiding places. Formulated with one or a combination of: O-isopropoxyphenyl methylcarbamate, MGK 264, N-octyl sulfoxide of isosafrole, piperonyl butoxide, pyrethrins, and vapona. Indoor application. Apply as a space spray using a fogger or a mist generator. Direct spray at an upward angle distributing it uniformly throughout the entire area. Keep area closed for at least 10 minutes. Ventilate and sweep up dead insects before reoccupying. Formulated with one or a combination of: MGK 264, piperonyl butoxide, and resmethrin.

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	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Commercial, Industrial and Institutional Areas/Premises (Indoor, Inedible) cluster (continued)		
IOAAAAA	Flies (including fruit fly, gnats, house fly and mosquitoes)	-- (10% Impr) [MAI] 1 pt 0.375% RTU/8,000-15,000 cu.ft (0.375% RTU)	Indoor application. Apply by using an electrical heater or a vapor-generating machine. To use the impregnated materials, insert pads in the heater, then plug into an electrical outlet. Apply liquid-ready to use in accordance with manufacturer's direction for the individual type of machine selected. Pests will be controlled by vapor produced by the heater. Reduce room ventilation as much as possible. May be formulated with piperonyl butoxide.
ITAAABA	Moths		
/77000JA	Commercial, Industrial and Institutional Areas (Outdoor)		
ISASAAA	Ants	[MAI] 0.05-0.5% finished spray (0.05% EC) (2.5-12.51% SC/L) (0.125-0.375% RTU) (0.1-0.4% PrL)	Outdoor application. Apply as a coarse, wet spray. For ants, apply over and around ant hills directly. For brown dog tick, apply to grass and under shrubbery particularly near house. For flies, mosquitoes and wasps, apply on screens, walls, doors and around window frames, light fixtures and other outdoor surfaces where pests congregate. For wasps, thoroughly soak wasp nests after dark when pests have returned to their nests. For spiders, spray directly on pests when possible. Treat surfaces of garages and out-buildings where pests congregate. Spray points of entry such as around window frames and along crevices. Formulated with one or a combination of: MGK 264, diazinon, chlorpyrifos, and piperonyl butoxide.
IQAUACA	Boxelder bug		
ILAWAAA	Chigger mites		
ILAVABA	Clover mite		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IMDAAAA	Earwigs		
IMNAAAA	Fleas		
IOAAAAA	Flies (including gnats, mosquitoes and stable fly)		
ITAAAPA	Moths		
IJEBAAA	Scorpions		
IMPBACA	Silverfish		
ITASAAA	Skippers		
IIFAAEA	Sowbugs		
IKAAAAA	Spiders		
IMCAAAA	Springtails		
ILAAAAA	Ticks (including brown dog tick and lone star tick)		
ITAJAAA	Wasps		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Commercial, Industrial and Institutional Areas (Outdoor) (continued)		
		[MAI] 0.05-0.5% finished spray (0.05-0.5% EC) (0.1% RTU) (0.05-0.1% PrL)	Outdoor application. To help prevent infestation of buildings, apply as a band 5 to 10 feet wide around and adjacent to buildings where pests are active and may find entrance. Treat a band of soil 6 to 10 feet wide around and adjacent to the building and also the building foundation to a height of 2 to 3 feet where pests are active and may find entrance for spray formulations. Apply as a coarse spray to thoroughly and uniformly wet the band area. Formulated with chlorpyrifos.
ISASBDA	Imported fire ants	[MAI] 0.05-0.14% finished spray (0.05-5% EC) (0.05-0.1% PrL)	Outdoor application. Apply to mound using a sprinkler can. Wet the mound and surrounding area to a 4 foot diameter. Apply in cool weather or in early morning or late evening hours. Treat new mounds as they appear. Do not disturb mound prior to treatment. Formulated with chlorpyrifos.

Refer to TERRESTRIAL NONFOOD CROP, (Noncrop, Wide Area, and General Indoor/Outdoor Treatments), Recreational Areas cluster for additional information.

AERIAL, MOTHPROOFING AND TANK MIX APPLICATIONS

9001500 AAAAAAA	**Aerial Application**		
	--	Refer to TERRESTRIAL FOOD CROP (Agricultural Crops)	Alfalfa, Apple, Beans, Broccoli, Brussels Sprouts, Cabbage, Celery, Clover, Collards, Cucurbits, Endive, Horseradish, Kale, Kohlrabi, Lettuce, Mustard Greens, Parsley, Peach, Pear, Peas, Peppers, Potato, Radish, Rutabaga, Sorghum, Spinach, Sugarcane, Tomato, Turnips

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Aerial Application (continued)		
		TERRESTRIAL NONFOOD CROP (Ornamental Plants and Forest Trees)	
			Ornamental Lawns and Turf, Ornamental Plants
9009000 AAAAAAA	Mothproofing		
	--	Refer to INDOOR (Household)	
			Domestic Dwellings (Indoor, Inedible), Domestic Dwellings Contents

EPA Compendium of Acceptable Uses

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation

&090.0001 90% technical chemical
allethrin (allyl homolog of cinerin I) (004001)
000432-00587 000655-00186 004816-00078 004816-00498

&093.0001 93% technical chemical
allethrin (allyl homolog of cinerin I) (004001)
001021-00105 001021-01217 005086-00007

&200.1002 0.1% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus pyrethrins (069001)
001021-00867

&200.2402 0.24% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum distillate (006601), methoxychlor, technical (034001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus pyrethrins (069001)
001021-00116

&200.3002 0.3% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), O-isopropoxyphenyl methylcarbamate (047802), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01196

&200.3402 0.34% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), methoxychlor, technical (034001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
001021-00524

&200.3402 0.342% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), methoxychlor, technical (034001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
001021-00445

&200.3502 0.35% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001)
003095-00016

&200.3802 0.38% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum distillate (006601), beta-butoxy beta'-thiocyano diethyl ether (010002), methoxychlor, technical (034001), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
001021-00160

Listing of Registered Pesticide Products by Formulation (continued)

&200.4002 0.405% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), O-isopropoxyphenyl methylcarbamate (047802), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01175

&000.4502 0.45% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), pyrethrins (069001) plus pyrethrum powder other than pyrethrins (069002)
000655-00411

&200.6702 0.675% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), methoxychlor, technical (034001), isobornyl thiocyanoacetate and related compounds (047101), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
001021-01057

&200.7102 0.714% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), O-isopropoxyphenyl methylcarbamate (047802), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01174

&200.7402 0.746% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), O-isopropoxyphenyl methylcarbamate (047802), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus 2,2-dichlorovinyl dimethyl phosphate and related compounds (084001)
001021-01179

&000.9002 0.9% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001)
000655-00468 000655-00469 000655-00470

&200.9702 0.972% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus pyrethrins (069001)
001021-00110

&201.9802 1.98% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus pyrethrins (069001)
001021-00180

&202.0002 2% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus pyrethrins (069001)
001021-00431

allethrin (allyl homolog of cinerin I) (004001), methoxychlor, technical (034001), 2-hydroxyethyl octyl sulfide (046301), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01026

&202.0102 2.01% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate (057801), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01187*
*jacket currently unavailable for review

&202.1702 2.17% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01130

&202.5002 2.5% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001) plus petroleum distillate (063503)
000655-00365 001021-00103

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000655-00673

&203.3402 3.34% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01170

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate (057801), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01192

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation (continued)

&204.0002 4% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
001021-00920

allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus 2,2-dichlorovinyl dimethyl phosphate and related compounds (084001)
001021-01176

&204.5002 4.5% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01156

&204.7102 4.71% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), 2-hydroxyethyl octyl sulfide (046301), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01152

&204.4802 4.482% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), dipropyl isocinchomeronate (047201), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonal bis[2-(2-butoxyethoxy)ethyl] acetal (068801)
001021-01171

&205.0002 5% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum derivative solvent (006501) plus chlorpyrifos (059101)
000432-00661

allethrin (allyl homolog of cinerin I) (004001), chlorpyrifos (059101) plus xylene range aromatic solvent (086803)
000432-00615

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000655-00674 001021-01136

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01169

5% formulation intermediate (continued)

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus pyrethrins (069001)
001021-00820

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
001021-00400

&205.5702 5.57% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
001021-00825

&206.5002 6.5% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00632

&206.6702 6.67% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), isobornyl thiocyanoacetate and related compounds (047101), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
001021-00438

&007.0002 7% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001)
004816-00526

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus pyrethrum powder other than pyrethrins (069002)
001021-01324

&207.2802 7.28% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01056

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonal bis[2-(2-butoxyethoxy)ethyl] acetal (068801)
001021-01205

Listing of Registered Pesticide Products by Formulation (continued)

&207.5002 7.5% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus pyrethrins (069001)
001021-00179

&207.8002 7.8% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00630 000432-00633

&208.0002 8% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01155

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01131

&208.3402 8.34% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01052 001021-01129

&209.0002 9% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000655-00653 001021-01142

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonal bis[2-(2-butoxyethoxy)ethyl] acetal (068801)
001021-01163

allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum distillate (006601), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00687

&209.5602 9.56% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
001021-01403

Listing of Registered Pesticide Products by Formulation (continued)

&210.0002 10% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00623

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonal bis[2-(2-butoxyethoxy)ethyl] acetal (068801)
001021-01074

allethrin (allyl homolog of cinerin I) (004001), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00629

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01127

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonal bis[2-(2-butoxyethoxy)ethyl] acetal (068801)
001021-01097

&210.3702 10.37% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)-cyclopropanecarboxylate (069005)
001021-01427

&214.3002 14.3% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01123

&215.0002 15% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
001021-00184

&216.0002 16% formulation intermediate

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01102

Listing of Registered Pesticide Products by Formulation (continued)

&216.8002 16.8% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-00680

&218.2002 18.2% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01167

&219.8002 19.8% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
001021-00412

&220.0002 20% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001) plus petroleum distillate (063503)
000655-00057

&221.0602 21.06% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonal bis[2-(2-butoxyethoxy)ethyl] acetal (068801)
001021-01062

&221.7502 21.75% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001) plus petroleum distillate (063503)
001021-00104

&290.0002 90% formulation intermediate
allethrin (allyl homolog of cinerin I) (004001) plus petroleum distillate (063503)
001021-00152 001021-01060

&000.1603 0.16% dust
allethrin (allyl homolog of cinerin I) (004001), pine oil (067002), pyrethrins (069001) plus silicon dioxide (072605)
006330-00017#
#suspended

&000.3510 0.35% impregnated materials
allethrin (allyl homolog of cinerin I) (004001)
004822-00108* 043917-00002
*jacket currently unavailable for review

Listing of Registered Pesticide Products by Formulation (continued)

0.35% impregnated materials (continued)

allethrin coil (004002), sodium benzoate (009103), malachite green (039504), pyrethrum powder other than pyrethrins (069002) plus potassium nitrate (076103)
003095-00022

&000.4010 0.4% impregnated materials
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001) plus pyrethrins (069001)
003060-00003

&000.4510 0.45% impregnated materials
allethrin (allyl homolog of cinerin I) (004001) plus pyrethrum powder other than pyrethrins (069002)
003282-00058

allethrin (allyl homolog of cinerin I) (004001), pyrethrum powder other than pyrethrins (069002) plus pyrethrin coils (069004)
005769-00091 008112-00001

allethrin (allyl homolog of cinerin I) (004001), benzoic acid (009101), malachite green (039504) plus pyrethrum powder other than pyrethrins (069002)
003095-00006

&010.0010 10% impregnated materials
allethrin (allyl homolog of cinerin I) (004001)
004726-00007

&028.0010 28% impregnated materials
allethrin (allyl homolog of cinerin I) (004001), allethrin coil (004002), benzoic acid (009101), malachite green (039504) plus pyrethrum powder other than pyrethrins (069002)
003095-00008 003095-00010 003095-00011

allethrin (allyl homolog of cinerin I) (004001), allethrin coil (004002), benzoic acid (009101), malachite green (039504), pyrethrins (069001) plus pyrethrum powder other than pyrethrins (069002)
003095-00009

&029.2010 29.2% impregnated materials
allethrin (allyl homolog of cinerin I) (004001), allethrin coil (004002), N-octyl bicycloheptene dicarboximide (057001) plus pyrethrum powder other than pyrethrins (069002)
001021-00771

&030.0010 30% impregnated materials
allethrin (allyl homolog of cinerin I) (004001), allethrin coil (004002) plus pyrethrum powder other than pyrethrins (069002)
004925-00003 006529-00002 008112-00001

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation (continued)

30% impregnated materials (continued)

allethrin coil (004002), d-trans allethrin (allyl homolog of cinerin I) (004003) plus pyrethrum powder other than pyrethrins (069002)
010171-00002*
*jacket currently unavailable for review

&054.5010 54.5% impregnated materials
allethrin (allyl homolog of cinerin I) (004001), allethrin coil (004002) plus pyrethrum powder other than pyrethrins (069002)
006755-00002*
*jacket currently unavailable for review

&060.4310 60.43% impregnated materials
allethrin (allyl homolog of cinerin I) (004001), allethrin coil (004002) plus pyrethrum powder other than pyrethrins (069002)
017864-00001

&064.8010 64.8% impregnated materials
allethrin (allyl homolog of cinerin I) (004001), allethrin coil (004002) plus pyrethrum powder other than pyrethrins (069002)
007602-00001 007602-00002

&065.0010 65% impregnated materials
allethrin coil (004002), d-trans allethrin (allyl homolog of cinerin I) (004003), malachite green (039504) plus pyrethrum powder other than pyrethrins (069002)
003095-00021*
*jacket currently unavailable for review

allethrin coil (004002), d-trans allethrin (allyl homolog of cinerin I) (004003), sodium benzoate (009103), malachite green (039504), pyrethrum powder other than pyrethrins (069002) plus potassium nitrate (076103)
003095-00014

&065.1510 65.15% impregnated materials
allethrin coil (004002), d-trans allethrin (allyl homolog of cinerin I) (004003), sodium benzoate (009103), malachite green (039504), pyrethrum powder other than pyrethrins (069002) plus potassium nitrate (076103)
003095-00015*
*jacket currently unavailable for review

&078.7810 78.78% impregnated materials
allethrin (allyl homolog of cinerin I) (004001), allethrin coil (004002), 2,4-dinitrophenol (037509) plus pyrethrum powder other than pyrethrins (069002)
007305-00001

Listing of Registered Pesticide Products by Formulation (continued)

&079.5010 79.5% impregnated materials
allethrin (allyl homolog of cinerin I) (004001), allethrin coil (004002) plus pyrethrum powder other than pyrethrins (069002)
009086-00002

&079.6010 79.6% impregnated materials
allethrin (allyl homolog of cinerin I) (004001), allethrin coil (004002), 2,4-dinitrophenol (037509) plus pyrethrum powder other than pyrethrins (069002)
007768-00004

&089.7010 89.7% impregnated materials
allethrin (allyl homolog of cinerin I) (004001), allethrin coil (004002) plus pyrethrum powder other than pyrethrins (069002)
020624-00001

&098.0410 98.04% impregnated materials
allethrin (allyl homolog of cinerin I) (004001) plus allethrin coil (004002)
004822-00098*
*jacket currently unavailable for review

&098.3510 98.35% impregnated materials
allethrin (allyl homolog of cinerin I) (004001) plus allethrin coil (004002)
020884-00001*
*jacket currently unavailable for review

&099.8010 99.8% impregnated materials
allethrin (allyl homolog of cinerin I) (004001) plus allethrin coil (004002)
022950-00004

&200.0512 0.05% emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001) plus chlorpyrifos (059101)
000432-00658

&200.9012 0.9% emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001), rotenone (and other cube resins) (071003) plus cube resins other than rotenone (071004)
FL780061

&201.0012 1% (0.074 lb/gal) emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001)
030573-00003

&201.0012 1% (0.0805 lb/gal) emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001), butoxypolypropylene glycol (011901), pine oil (067002) plus piperonyl butoxide, technical (067501)
000270-00074

&201.2012 1.2% (0.082 lb/gal) emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000655-00660

&201.8712 1.875% (0.144 lb/gal) emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001), butoxypolypropylene glycol (011901), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
003314-00037 004816-00572 008590-00534 013330-00004

&202.5012 2.5% (0.17 lb/gal) emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
003314-00050 004816-00575 004816-00580 004816-00582
009444-00072 009591-00055

&202.9512 2.95% (0.206 lb/gal) emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
003314-00043 006175-00028

&202.9712 2.97% (0.22 lb/gal) emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus xylene range aromatic solvent (086803)
006175-00026

&203.2812 3.28% emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00586*
*jacket currently unavailable for review

&203.4212 3.42% emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001), butoxypolypropylene glycol (011901), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
021165-00012

&205.0012 5% (0.866 lb/gal) emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum distillate (006601) plus chlorpyrifos (059101)
000432-00659

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ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation (continued)

&215.0012 15% (1.27 lb/gal) emulsifiable concentrate
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00581

&200.0315 0.03% soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), piperonyl butoxide, technical (067501), pyrethrins (069001) plus isoparaffinic hydrocarbons (505200)
003635-00127

allethrin (allyl homolog of cinerin I) (004001), N-octyl sulfoxide of isosafrole (and related compounds) (057101), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
006899-00010

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), N-octyl sulfoxide of isosafrole (and related compounds) (057101), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
030943-00006

&200.0615 0.06% soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), piperonyl butoxide, technical (067501), pyrethrins (069001) plus isoparaffinic hydrocarbons (505200)
003635-00133*
*jacket currently unavailable for review

&200.0615 0.066% soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
001421-00102

&200.5015 0.5% soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001), methoxychlor, technical (034001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
001021-00865*
*jacket currently unavailable for review

&202.0015 2% (0.136 lb/gal) soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000655-00661

Listing of Registered Pesticide Products by Formulation (continued)

&202.5015 2.5% (0.1645 lb/gal) soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00625

&202.6215 2.62% soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
001021-00148

&203.7515 3.75% (0.25 lb/gal) soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00588

&205.0015 5% (0.37 lb/gal) soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00631

&205.5615 5.56% soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001) plus piperonyl butoxide, technical (067501)
000655-00663*
*jacket currently unavailable for review

allethrin (allyl homolog of cinerin I) (004001), mineral oil (063502) plus piperonyl butoxide, technical (067501)
000665-00663*
*jacket currently unavailable for review

&206.8015 6.8% soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001), isobornyl thiocyanoacetate and related compounds (047101), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
001021-00635*
*jacket currently unavailable for review

&207.5315 7.53% soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001), isobornyl thiocyanoacetate and related compounds (047101), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
001021-00646*
*jacket currently unavailable for review

&212.5115 12.51% (0.9 lb/gal) soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00583

Listing of Registered Pesticide Products by Formulation (continued)

&213.3415 13.34% soluble concentrate/liquid
allethrin (allyl homolog of cinerin I) (004001) plus piperonyl butoxide, technical (067501)
000655-00662*
*jacket currently unavailable for review

&200.0216 0.019% liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001), beta-butoxy beta'-thiocyano diethyl ether (010002), methoxychlor, technical (034001), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
006607-00001*
*jacket currently unavailable for review

&200.0316 0.03% liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate (057801), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
005748-00035 008845-00056

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), N-octyl sulfoxide of isosafrole (and related compounds) (057101), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
001537-00025*
*jacket currently unavailable for review

&200.1016 0.1% (0.00834 lb/gal) liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001) plus chlorpyrifos (059101)
000432-00622* 000432-00645 009591-00115 011525-00067
*jacket currently unavailable for review

&200.1216 0.12% liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001), 2,3:4,5-bis(2-butylene)tetrahydro-2-furaldehyde (043302) plus piperonyl butoxide, technical (067501)
002097-00013

allethrin (allyl homolog of cinerin I) (004001), alcohol or ethanol or ethyl alcohol (001501), ethoxylated lanolin (031607), piperonyl butoxide, technical (067501) plus ammonium lauryl sulfate (079028)
002097-00011

&200.1216 0.125% (0.0825 lb/gal) liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum derivative solvent (006501), malathion (057701), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00584

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation (continued)

&200.1516 0.15% liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001) plus piperonyl butoxide, technical (067501)
029909-00009

&200.2516 0.25% (0.016-0.017 lb/gal) liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00577 009591-00046 043954-00020 045385-00006

&200.2516 0.25% (0.0166 lb/gal) liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000655-00672

&200.2516 0.25% (0.017 lb/gal) liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001), butoxypolypropylene glycol (011901), oil of citronella (021901), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00587 013330-00018

&200.2516 0.25% (0.021 lb/gal) liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00664

&200.3016 0.3% (0.02 lb/gal) liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000655-00656 000655-00658 000655-00774

&200.3716 0.375% (0.0244 lb/gal) liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00590

&200.4216 0.417% liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
003314-00045*
*jacket currently unavailable for review

&200.4516 0.45% (0.03 lb/gal) liquid-ready to use
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000655-00659

Listing of Registered Pesticide Products by Formulation (continued)

&200.5016 0.5% liquid-ready to use

allethrin (allyl homolog of cinerin I) (004001), butoxypolypropylene glycol (011901), oil of citronella (021901), dipropyl isocinchomeronate (047201) plus piperonyl butoxide, technical (067501)
000270-00075

&200.5016 0.5% (0.0325 lb/gal) liquid-ready to use

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00576 045385-00009

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000052-00229

&200.6216 0.625% (0.041 lb/gal) liquid-ready to use

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00585 008590-00527

&200.8516 0.85% (0.057 lb/gal) liquid-ready to use

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004816-00591 009591-00079

&201.2516 1.25% liquid-ready to use

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001622-00061 001769-00306 003314-00038 004816-00554
004816-00579 008123-00088 008590-00528 008590-00529
009591-00050

&201.2516 1.25% (0.0825 lb/gal) liquid-ready to use

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001270-00213 005440-00110 011695-00085 045385-00003

&201.3916 1.39% liquid-ready to use

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000419-00206* 051033-00076*
*jacket currently unavailable for review

&200.0319 0.03% pressurized liquid

allethrin (allyl homolog of cinerin I) (004001), O-isopropoxyphenyl methylcarbamate (047802), petroleum distillate (063503) plus 2,2-dichlorovinyl dimethyl phosphate and related compounds (084001)
007992-00006

Listing of Registered Pesticide Products by Formulation (continued)

&200.0519 0.05% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001) plus chlorpyrifos (059101)
000432-00654

&200.0719 0.07% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), N-octyl sulfoxide of isosafrole (and related compounds) (057101), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
003635-00103

&200.0819 0.08% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), N-octyl sulfoxide of isosafrole (and related compounds) (057101), ronnel (058301), kerosene (063501), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
003635-00088*
*jacket currently unavailable for review

&200.1019 0.1% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001) plus chlorpyrifos (059101)
000432-00652

allethrin (allyl homolog of cinerin I) (004001), butoxypolypropylene glycol (011901) plus piperonyl butoxide, technical (067501)
000622-00039 002596-00085 003314-00041 004816-00386
004972-00065 005590-00169* 007992-00028 008590-00532
008698-00005 010900-00050 011715-00092 013330-00003
013799-00003 013891-00038 029902-00004 033176-00013
047834-00021
*jacket currently unavailable for review

allethrin (allyl homolog of cinerin I) (004001), trichloromonofluoromethane (000013), carbon dioxide (016601) plus petroleum distillate (063503)
000499-00224

allethrin (allyl homolog of cinerin I) (004001), malathion (057701), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
007286-00005*
*jacket currently unavailable for review

Listing of Registered Pesticide Products by Formulation (continued)

0.1% pressurized liquid (continued)

allethrin (allyl homolog of cinerin I) (004001), methoxychlor, technical (034001), isobornyl thiocyanoacetate and related compounds (047101), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
000475-00031

allethrin coil (004002), methoxychlor, technical (034001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
003407-00046#
#suspended

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) piperonyl butoxide, technical (067501) plus pyrethrins (069001)
003635-00167

allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), N-octyl sulfoxide of isosafrole (and related compounds) (057101), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
003635-00105

&200.1119 0.11% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), butoxypolypropylene glycol (011901) plus piperonyl butoxide, technical (067501)
009688-00039*
*jacket currently unavailable for review

&200.1219 0.129% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum distillate (006601), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)-cyclopropanecarboxylate (069005)
011715-00104

&200.1519 0.15% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
004476-00073 005197-00049

allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus pyrethrins (069001)
001645-00014

0.15% pressurized liquid (continued)

allethrin (allyl homolog of cinerin I) (004001), essential oils (040501), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
001603-00015   001604-00014

&200.1619 0.162% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum distillate (006601), essential oils (040501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
051033-00063*
*jacket currently unavailable for review

&200.1619 0.1625% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00626

&200.2019 0.2% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001) plus piperonyl butoxide, technical (067501)
000201-00321*
*jacket currently unavailable for review

allethrin (allyl homolog of cinerin I) (004001), piperonyl butoxide, technical (067501), plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00594*
*jacket currently unavailable for review

allethrin (allyl homolog of cinerin I) (004001), methoxychlor, technical (034001), 2-hydroxyethyl octyl sulfide (046301), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004206-00020

&200.2519 0.252% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), trichloromonofluoromethane (000013), dichlorodifluoromethane (000014), butoxypolypropylene glycol (011901), carbon dioxide (016601), petroleum distillate (063503), pine oil (067002), piperonyl butoxide, technical (067501) plus limonene (079701)
000499-00215

ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation (continued)

&200.2619 0.26% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00631

&200.3019 0.3% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
005130-00007

&200.3619 0.363% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)-cyclopropanecarboxylate (069005)
011474-00044

&200.4019 0.4% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00627

&200.5019 0.5% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000432-00588* 000499-00205
*jacket currently unavailable for review

allethrin (allyl homolog of cinerin I) (004001), aromatic petroleum distillate (006601), petroleum distillate (063503) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
000239-02558

&200.6019 0.6% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
010807-000140

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Listing of Registered Pesticide Products by Formulation (continued)

0.6% pressurized liquid (continued)

allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
000432-00686* 000478-00122 007056-00108 011715-00148
041835-00007 048668-00002
*jacket currently unavailable for review

&201.0019 1% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000499-00212

&202.5019 2.5% pressurized liquid
allethrin (allyl homolog of cinerin I) (004001), kerosene (063501) plus piperonyl butoxide, technical (067501)
017839-00039

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ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Appendix A-1

Listing of Active Ingredient(s) Found in Combination with the Report Chemical

Chemical Code	Common Name (source)	EPA Acceptable Common/Chemical Name
001501	alcohol or ethanol or ethyl alcohol	--
004001	allethrin	allethrin (allyl homolog of cinerin I)
004002	allethrin coil	--
079028	ammonium lauryl sulfate	--
006501	aromatic petroleum derivative solvent	--
006601	aromatic petroleum distillate	--
009101	benzoic acid	--
010002	beta-butoxy beta'-thiocyano diethyl ether	--
011901	butoxypolypropylene glycol	--
043302	2,3:4,5-bis(2-butylene)tetrahydro-2--furaldehyde	--
016601	carbon dioxide	--
059101	chlorpyrifos	--
071004	cube resins other than rotenone	--
057801	diazinon (ISO)	O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate
000014	dichlorodifluoromethane	--
037509	2,4-dinitrophenol	--
047201	dipropyl isocinchomeronate	--
040501	essential oils	--
031607	ethoxylated lanolin	--

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ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Appendix A-1

Listing of Active Ingredient(s) Found in Combination with the Report Chemical (continued)

Chemical Code	Common Name (source)	EPA Acceptable Common/Chemical Name
046301	2-hydroxyethyl octyl sulfide	--
047101	isobornyl thiocyanoacetate	isobornyl thiocyanoacetate and related compounds
505200	isoparaffinic hydrocarbons	--
047802	O-isopropoxyphenyl methylcarbamate	--
063501	kerosene	--
079701	limonene	--
057001	MGK 264	N-octyl bicycloheptene dicarboximide
039504	malachite green	--
057701	malathion	--
034001	methoxychlor	methoxychlor, technical
063502	mineral oil	--
057101	N-octyl sulfoxide of isosafrole	N-octyl sulfoxide of isosafrole (and related compounds)
021901	oil of citronella	--
063503	petroleum distillate	--
069005	phenothrin	(3-phenoxyphenyl)-methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate
067002	pine oil	--
068801	piperonal bis[2-(2-butoxyethoxy)-ethyl] acetal	--

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ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Appendix A-1

Listing of Active Ingredient(s) Found in Combination with the Report Chemical (continued)

Chemical Code	Common Name (source)	EPA Acceptable Common/Chemical Name
067501	piperonyl butoxide	piperonyl butoxide, technical
076103	potassium nitrate	--
069004	pyrethrin coils	--
069001	pyrethrins	--
069002	pyrethrum powder other than pyrethrins	--
097801	resmethrin	(5-benzyl-3-furyl)-methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate
058301	ronnel	--
071003	rotenone	rotenone (and other cube resins)
072605	silicon dioxide	--
009103	sodium benzoate	--
079101	O,O,O,O-tetrapropyl dithiopyrophosphate	--
004003	d-trans allethrin	d-trans allethrin (allyl homolog of cinerin I)
000013	trichloromonofluoromethane	--
084001	vapona	2,2-dichlorovinyl dimethyl phosphate and related compounds
086803	xylene range aromatic solvent	--

-- Use EPA Acceptable Common/Chemical Name

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D-CIS/TRANS ALLETHRIN

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African Violets	2,5
Ageratum	2
Althea	2
Andromeda	2
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Ash	2
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Begonia	5
Broadleaf Acacia	2
Camellia	2
Cherry (ornamental)	2
Chinese Evergreen	5
Chrysanthemum	2
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Daisies	2
Daphne	2
Dieffenbachia	5
Dogwood	2
Domestic Dwellings, Indoor	6
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English Ivy	2
Euonymus	2
Fatshedera	5
Ficus	5
Flowering Quince	2
Forsythia	2
Gardenia	2
Geranium	2
Gladiolus	2
Iris	2
Ivy	2,5
Juniper	2
Kennels	5
Locust	2
Maple	2
Marigold	2

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D-CIS/TRANS ALLETHRIN

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Snapdragon	2
Spirea	2
Spruce	2
Tobira	2
Toyon	3
Umbrella Tree	5
Verbena	3
Viburnum	3
Wandering Jew	5
Wisteria	3
Zinnia	3

c004005

D-CIS/TRANS ALLETHRIN*

TYPE PESTICIDE: Insecticide, Acaricide

FORMULATIONS:

Tech	(86%)
FI	(2.87%, 4.78%, 6.364%, 6.45%, 7.17%, 7.645%, 7.648%, 13.38%, 16.86%)
Impr	(0.23%, 0.24%, 4.3%, 5.39%, 5.41%, 5.84%, 5.95%, 6.03%, 9.98%, 9.99%, 19.1%, 19.12%, 21.65%)
EC	(3.122%)
SC/L	(0.31%)
PrL	(0.129%, 0.14%, 0.19%, 0.239%, 0.422%, 0.48%, 0.5%)

GENERAL WARNINGS AND LIMITATIONS: Do not use in edible areas of commercial food processing, storage, preparation or serving establishments. In the home, all food processing surfaces and utensils should be covered during treatment, or thoroughly washed before use. Cover exposed food. Remove pets, birds and cover fish aquariums before spraying. Do not use in rooms where people are sleeping.

*d-cis allethrin (allyl homolog of cinerin I)

EPA Compendium of Acceptable Uses

D-CIS/TRANS ALLETHRIN

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	TERRESTRIAL NONFOOD CROP		
	(Ornamental Plants and Forest Trees)		
/31012AA	African Violets		Apply sparingly on ash, azalea, camellia, flowering quince, juniper and roses. These plants may be subject to leaf or flower burn under heavy use. Use cautiously on young plants and new growth.
/31013AA	Ageratum		
/31121AA	Althea		
/34078AA	Andromeda		
/35021AA	Arborvitae		
/35022AA	Ash		
/34022AA	Azalea		
/34230AA	Broadleaf Acacia		
/34036AA	Camellia		
/35055AA	Cherry (ornamental)		
/31065AA	Chrysanthemum		
/35056AA	Crabapple (ornamental)		
/34046AA	Crape Myrtle		
/31085AA	Daisies		
/34049AA	Daphne		
/35043AA	Dogwood		
/34052AA	English Ivy		
/34053AA	Euonymus		
/34061AA	Flowering Quince		
/34062AA	Forsythia		
/34063AA	Gardenia		
/31108AA	Geranium		
/31111AA	Gladiolus		
/31126AA	Iris		
/34076AA	Ivy		
/35073AA	Juniper		
/35077AA	Locust		
/35083AA	Maple		
/31137AA	Marigold		
/35136AA	Mimosa		
/31143AA	Nasturtium		
/35093AA	Oak		
/34102AA	Oleander		
/35097AA	Palm		
/31151AA	Peony		
/31152AA	Peperomia		
/31154AA	Petunia		
/35098AA	Pines		
/31416AA	Purple Passion Vine		
/35356AA	Queen Sago		
/34118AA	Rhododendron		
/34120AA	Roses		
/31171AA	Salvia		
/31184AA	Snapdragon		
/34130AA	Spirea		
/35116AA	Spruce		
/34129AA	Tobira		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	African Violets cluster (continued)		
/34222AA	Toyon		
/31206AA	Verbena		
/34137AA	Viburnum		
/34228AA	Wisteria		
/31213AA	Zinnia		
ISASAAA	Ants	[MAI] -- (0.129%, 0.239% PrL)	Foliar application. Apply by using a slow sweeping motion, holding the dispenser approximately 1 foot from foliage. Spray both upper and lower leaf surfaces until visibly wet. Repeat as needed. Formulated with phenothrin and isoparaffinic hydrocarbons.
IRACAAA	Aphids		
IQAUACA	Boxelder bug		
ITANABA	Cankerworms		
ITAAAAA	Caterpillars		
ITBCCZA	Climbing cutworms		
INBPAZA	Japanese beetle		
IQAXAAA	Lace bugs		
IRAFAAA	Leafhoppers		
IRAWAAA	Mealybugs		
ITBCCLA	Southern armyworm		
ILAVAAA	Spider mites		
IRABAAA	Whiteflies		
/35000AA	Ornamental Trees		
ITAXAIC	Gypsy moth (larvae)	[MAI] 2 fl.oz 3.122% EC/gal (3.122% EC)	Foliar application. Apply early in the day, spraying as many of the larvae and as much of the foliage as possible. Also spray all the way around the trunk of the tree. Repeat as needed. Formulated with MGK 264 and fenvalerate.

D-CIS/TRANS ALLETHRIN

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations

DOMESTIC OUTDOOR

General Warnings and Limitations: D-cis/trans allethrin is highly toxic to fish. Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). Drift from treated areas may be hazardous to organisms in adjacent aquatic sites. Do not contaminate water by cleaning of equipment or disposal of wastes.

(Domestic Dwellings)

/630030A Domestic Dwellings, Outdoor

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
ISASAAA	Ants	[MAI] -- (0.129%, 0.19%, 0.239% PrL)	Outdoor application. For bees, hornets, wasps and yellowjackets, apply to nests in trees, bushes, under leaves, chimneys, cracks and crevices preferably at night after pests have returned. For other flying insects, direct spray towards bushes or grass, garbage cans, and compost piles. Formulated with one or a combination of: 2-hydroxyethyl octyl sulfide, phenothrin, or resmethrin.
ISAAACA	Bees		
IJBAAAA	Centipedes		
IVAHAAA	Crickets		
IOAAAFA	Gnats		
ISBIADA	Hornets		
IOAUAFA	House fly		
IOAMAAA	Mosquitoes		
ITAAABA	Moths		
ISAAADA	Wasps		
ISBIAEA	Yellowjackets		
IOAMAAA	Mosquitoes	-- [1 coil/10 ft] (0.23% Impr) [MAI] -- [1 coil/10 ft] (0.24% Impr)	Outdoor application. Apply repellent (mosquito coil) in places frequented by pests. May be formulated with pyrethrum powder other than pyrethrins.

D-CIS/TRANS ALLETHRIN

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	INDOOR		
	General Warnings and Limitations: Do not contaminate water by disposal of wastes.		
	(Ornamental Plants)		
/31012FA	African Violets		
/31034FA	Begonia		
/31063FA	Chinese Evergreen		
/31071FA	Coleus		
/31089FA	Dieffenbachia		
/34172FA	Fatshedera		
/34057FA	Ficus		
/34076FA	Ivy		
/39001FA	Ornamental Ferns		
/31155FA	Philodendron		
/31175FA	Schefflera		
/35265FA	Umbrella Tree		
/31278FA	Wandering Jew		
ISASAAA	Ants	[MAI]	Houseplant treatment. Spray both upper and lower surface of leaves from a distance of 12 to 14 inches until visibly wet. Repeat as needed. Formulated with phenothrin and isoparaffinic hydrocarbons.
IRACAAA	Aphids	--	
IQAUACA	Boxelder bug	(0.129% PrL)	
ITANABA	Cankerworms		
ITAAAAA	Caterpillars		
INBPAZA	Japanese beetle		
IQAXAAA	Lace bugs		
IRAFAAA	Leafhoppers		
IRAWAAA	Mealybugs		
ITBCCLA	Southern armyworm		
ILAVAAA	Spider mites		
IRABAAA	Whiteflies		
	(Animals and Their Man-made Premises)		
/54003JA	Kennels		
ISASAAA	Ants	[MAI]	Premise treatment. Spray directly on pests where possible. Thoroughly spray into all places where pests hide, seek or congregate. For ants, spray on trails and other points of entry. For bees, hornets, wasps and yellowjackets, apply to nests after pests have returned, preferably at night. Formulated with phenothrin.
ISAAACA	Bees	0.5 fl.oz	
IVAAABA	Cockroaches	0.31% SC/L/	
IVAHAAA	Crickets	1,000 cu.ft	
IDAAAFA	Gnats	(0.31% SC/L)	
ISBIADA	Hornets	or	
IDAUAFA	House fly	--	
IDAMAAA	Mosquitoes	(0.422% PrL)	
ITAAABA	Moths		
ISAAADA	Wasps		
ISBIAEA	Yellowjackets		

D-CIS/TRANS ALLETHRIN

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	(Domestic Dwellings)		
/630010A	Domestic Dwellings, Indoor		
ISASAAA ISAAACA INATAFA IVAAABA IVAHAAA IMPBABA IOAAAFA ISBIADA IOAUAFA IOAMAAA ITAAABA IMPBACA IIFAAEA ISAAADA ISBIAEA	Ants Bees Carpet beetle Cockroaches Crickets Firebrat Gnats Hornets House fly Mosquitoes Moths Silverfish Sowbugs Wasps Yellowjackets	[MAI] 0.5 fl.oz 0.31% SC/L/ 1,000 cu.ft (0.31% SC/L) or -- (0.129%, 0.19%, 0.239%, 0.422%, 0.48%, 0.5% PrL)	Indoor application. Spray directly on pests where possible. Thoroughly spray into all places where pests hide, seek, or congregate. For ants, spray on trails and points of entry such as around door frames, window sills, openings around pipes, and door jambs. For bees, apply only to species that invade buildings. Aim directly at nest under rafters and in wall voids. For carpet beetle, spray top and underside of rugs. For other crawling insects, spray into cracks and crevices, moist areas, openings around pipes and sinks, under refrigerators, baseboards, and storage areas. Formulated with one or a combination of: 2-hydroxyethyl octyl sulfide, phenothrin, or resmethrin.
IOAAAAA IOAMAAA	Flies Mosquitoes	-- [1 pad/2,300 cu.ft] (5.39%, 5.41%, 5.84%, 6.03%, 9.99%, 19.12% Impr)	Indoor application. Apply impregnated materials (such as pads, mats, or vapor mats) using an electrical heater or a vapor generating machine. To use the products, insert pads in the heater, then plug into an electric outlet. Pests will be controlled by vapor produced by the heater. Reduce room ventilation as much as possible.

EPA Compendium of Acceptable Uses

D-CIS/TRANS ALLETHRIN

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Domestic Dwellings, Indoor (continued)		
IOAMAAA	Mosquitoes	-- [1 coil/10 ft] (0.23% Impr) [MAI] -- [1 coil/10 ft] (0.24% Impr)	Indoor application. Apply repellent (mosquito coil) in rooms and other places frequented by pests. May be formulated with pyrethrum powder other than pyrethrins.
	(Commercial and Industrial Uses)		
/77000JC	Commercial, Industrial and Institutional Areas (Indoor)		
ISASAAA	Ants	[MAI] 0.5 fl.oz 0.31% SC/L/ 1,000 cu.ft (0.31% SC/L) or -- (0.129%, 0.422% PrL)	Indoor application. Spray directly on pests where possible. Thoroughly spray into all places where pests hide, seek, or congregate. For ants, spray on trails and points of entry such as around door frames, window sills, openings around pipes, and door jambs. For bees, hornets, wasps and yellowjackets, aim at nests preferably at night after pests have returned. Formulated with phenothrin.
ISAAACA	Bees		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IOAAAFA	Gnats		
ISBIADA	Hornets		
IOAUAFA	House fly		
IOAMAAA	Mosquitoes		
ITAAABA	Moths		
ISAAADA	Wasps		
ISBIAEA	Yellowjackets		
/770000A	Commercial, Industrial and Institutional Areas (Outdoor)		
ISAAACA	Bees	[MAI] -- (0.129% PrL)	Outdoor treatment. Apply to nest preferably at night after pests have returned to their nests. Formulated with phenothrin.
IOAAAFA	Gnats		
ISBIADA	Hornets		
ISAAADA	Wasps		

D-CIS/TRANS ALLETHRIN

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	AERIAL, MOTHPROOFING AND TANK MIX APPLICATIONS		
3009000 AAAAAAA	Mothproofing		
	--	Refer to INDOOR (Domestic Dwellings)	Domestic Dwellings, Indoor

D-CIS/TRANS ALLETHRIN

Listing of Registered Pesticide Products by Formulation

&286.0001 86% technical chemical
d-cis/trans allethrin (004005)
001021-01428 010308-00003* 039398-00019*
*jacket currently unavailable for review

&202.8702 2.87% formulation intermediate
d-cis/trans allethrin (004005), heavy aromatic naphtha (006602), N-octyl bicycloheptenedicarboximide (057001) plus O,O-dimethyl O-(4 nitro-m-tolyl)phosphorothioate (105901)
039398-00024*
*jacket currently unavailable for review

&204.7802 4.78% formulation intermediate
d-cis/trans allethrin (004005), 2-hydroxyethyl octyl sulfide (046301), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
001021-01495

&206.3602 6.364% formulation intermediate
d-cis/trans allethrin (004005), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
001021-01507

&206.4502 6.45% formulation intermediate
d-cis/trans allethrin (004005), aromatic petroleum distillate (006601), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
001021-01423*
*jacket currently unavailable for review

&207.1702 7.17% formulation intermediate
d-cis/trans allethrin (004005) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
001021-01422

&207.6402 7.645% formulation intermediate
d-cis/trans allethrin (004005), petroleum distillate (06303) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-ropenyl)cyclopropanecarboxylate (069005)
001021-01475

&207.6502 7.648% formulation intermediate
d-cis/trans allethrin (004005), petroleum distillate (06303) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-ropenyl)cyclopropanecarboxylate (069005)
001021-01476

D-CIS/TRANS ALLETHRIN

Listing of Registered Pesticide Products by Formulation (continued)

&213.3802 13.38% formulation intermediate
d-cis/trans allethrin (004005)
001021-01451

&216.8602 16.86% formulation intermediate
d-cis/trans allethrin (004005), petroleum distillate (063503)
plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
001021-01426

&000.2310 0.23% impregnated materials
d-cis/trans allethrin (004005)
054045-00001

&000.2410 0.24% impregnated materials
d-cis/trans allethrin (004005) plus pyrethrum powder other than pyrethrins (069002)
003095-00026

&004.3010 4.3% impregnated materials
d-cis/trans allethrin (004005) plus permethrin (109701)
004822-00277* 004822-00274*
*jacket currently unavailable for review

&005.3910 5.39% impregnated materials
d-cis/trans allethrin (004005)
008842-00003* 039398-00008
*jacket currently unavailable for review

&005.4110 5.41% impregnated materials
d-cis/trans allethrin (004005)
049598-00001

&005.8410 5.84% impregnated materials
d-cis/trans allethrin (004005)
052969-00002

&005.9510 5.95% impregnated materials
d-cis/trans allethrin (004005)
003095-00041*
*jacket currently unavailable for review

&006.0310 6.03% impregnated materials
d-cis/trans allethrin (004005)
039398-00018 052971-00002

&009.9810 9.98% impregnated materials
d-cis/trans allethrin (004005)
003095-00042*
*jacket currently unavailable for review

Listing of Registered Pesticide Products by Formulation (continued)

&009.9910 9.99% impregnated materials
d-cis/trans allethrin (004005)
049589-00002

&019.1010 19.1% impregnated materials
d-cis/trans allethrin (004005)
008842-00004*
*jacket currently unavailable for review

&019.1210 19.12% impregnated materials
d-cis/trans allethrin (004005)
039398-00020   052971-00001

&021.6510 21.65% impregnated materials
d-cis/trans allethrin (004005)
052969-00001*
*jacket currently unavailable for review

&203.1212 3.122% emulsifiable concentrate
d-cis/trans allethrin (004005), aromatic petroleum distillate (006601), N-octyl bicycloheptenedicarboximide (057001) plus cyano (3-phenoxyphenyl)methyl 4-chloro-alpha-(1-methylethyl)-benzeneacetate (109301)
001021-01516

&200.3115 0.31% soluble concentrate/liquid
d-cis/trans allethrin (004005), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
001021-01473

&200.1319 0.129% pressurized liquid
d-cis/trans allethrin (004005) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
003095-00033   010806-00049   045746-00007

d-cis/trans allethrin (004005), (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005) plus isoparaffinic hydrocarbons (505200)
008845-00082

d-cis/trans allethrin (004005), aromatic petroleum distillate (006601), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
007056-00142*   007754-00032   010806-00047   010807-00077
011598-00040   033176-00030   040849-00006   047834-00013
*jacket currently unavailable for review

Listing of Registered Pesticide Products by Formulation (continued)

&200.1419 0.14% pressurized liquid

d-cis/trans allethrin (004005) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
004822-00287*
*jacket currently unavailable for review

d-cis/trans allethrin (004005), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
004822-00286*
*jacket currently unavailable for review

&200.1919 0.19% pressurized liquid

d-cis/trans allethrin (004005), 2-hydroxyethyl octyl sulfide (046301) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
004822-00184

&200.2419 0.239% pressurized liquid

d-cis/trans allethrin (004005) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
004822-00283

d-cis/trans allethrin (004005), aromatic petroleum distillate (006601), petroleum distillate (063503) plus (5-benzyl-3-furyl)-methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
004822-00181*
*jacket currently unavailable for review

&200.4219 0.422% pressurized liquid

d-cis/trans allethrin (004005), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
046813-00017

&200.4819 0.48% pressurized liquid

d-cis/trans allethrin (004005), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
004822-00173

&200.5019 d-cis/trans allethrin (004005), aromatic petroleum distillate (006601), petroleum distillate (063503) plus (5-benzyl-3-furyl)-methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
004822-00162

EPA Compendium of Acceptable Uses

D-CIS/TRANS ALLETHRIN

Appendix A-1

Listing of Active Ingredient(s) Found in Combination with the Report Chemical

Chemical Code	Common Name (source)	EPA Acceptable Common/Chemical Name
006601	aromatic petroleum distillate	--
109301	fenvalerate	cyano (3-phenoxyphenyl)methyl 4-chloro-alpha-(1-methylethyl) benzeneacetate
006602	heavy aromatic naphtha	--
046301	2-hydroxyethyl octyl sulfide	--
505200	isoparaffinic hydrocarbons	--
057001	MGK 264	N-octyl bicycloheptenedicarboximide
109701	permethrin	--
063503	petroleum distillate	--
069005	phenothrin	(3-phenoxyphenyl)-methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate
067501	piperonyl butoxide	piperonyl butoxide, technical
069002	pyrethrum powder other than pyrethrins	--
097801	resmethrin	(5-benzyl-3-furyl)-methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate
105901	sumithion	O,O-dimethyl O-(4 nitro-m-tolyl)phosphorothioate

-- Use Comon Name

EPA Compendium of Acceptable Uses

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

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Agricultural Crops (greenhouse)	6
Aircraft (non-feed/food)	22
Asparagus	2
Asparagus (greenhouse)	6
Automobiles (non-feed/food)	22
Beans (green)	2
Beans (green) (greenhouse)	6
Beans (lima)	2
Beans (lima) (greenhouse)	6
Beans (wax)	2
Beans (wax) (greenhouse)	6
Beets (table)	2
Beets (table) (greenhouse)	6
Cat Sleeping Quarters	15
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Corn (field)	2
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EPA Compendium of Acceptable Uses

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

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c004003 D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)*

TYPE PESTICIDE: Insecticide, Acaricide

FORMULATIONS:
Tech (92%, 93.99%)
FI (0.67%, 0.837%, 0.902%, 1.421%, 1.62%, 2%, 2.63%, 3%, 3.22%, 3.4%, 3.92%, 4.03%, 5%, 5.37%, 5.38%, 5.52%, 6%, 6.69%, 6.72%, 7.28%, 7.5%, 8%, 9%, 10%, 12.5%, 16.17%, 17.2%, 20.97%, 24.2%, 27.9699%, 29.04%, 38.4%, 41.3%, 46.25%, 48.202%, 51.62%, 72.34%)
D (0.15%, 0.36%, 1.8%)
Impr (0.125%, 0.25%, 0.4%, 0.42%, 0.45%, 4.2%, 4.8%)
EC (0.837%, 2%, 6%)
SC/L (0.06%, 0.324%)
RTU (0.05%, 0.06%, 0.075%, 0.08%, 0.1%, 0.107%, 0.121%, 0.14%, 0.25%, 0.27%, 0.3%, 0.5%, 0.6%)
PrL (0.02%, 0.05%, 0.054%, 0.06%, 0.075%, 0.09%, 0.1%, 0.125%, 0.15%, 0.16%, 0.2%, 0.25%, 0.3%, 0.4%, 0.5%, 0.6%, 0.8%, 0.9%, 1.2%)

GENERAL WARNINGS AND LIMITATIONS:
Definition of Terms:
MAI - Multiple Active Ingredient(s)
Parenthesized pest name - Claims for pest control limited to suppression of population are indicated by entirely parenthesized pest name.

*bioallethrin
d-trans-chrysanthemum monocarboxylic ester of dl-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	TERRESTRIAL FOOD CROP		
	(Agricultural Crops)		
/28037AA	Agricultural Crops (including asparagus, beans (green), beans (lima), beans (wax), beets (table), corn (field), corn (sweet), cucumbers, peas, peppers, spinach, squash (summer), and tomato)	N.F.	Refer to GREENHOUSE FOOD CROP, (Agricultural Crops), Agricultural Crops for use and limitation information.
/02000DA	Citrus Fruits (non-bearing)	N.F.	Refer to TERRESTRIAL NONFOOD CROP, (Ornamental Plants and Forest Trees), Ornamental Herbaceous Plants cluster for use and limitation information.
/01010DA	Cranberry (non-bearing)	N.F.	Refer to TERRESTRIAL NONFOOD CROP, (Ornamental Plants and Forest Trees), Ornamental Herbaceous Plants cluster for use and limitation information.

c004003 D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)*

TYPE PESTICIDE: Insecticide, Acaricide

FORMULATIONS:

Tech	(93%, 99.99%)
FI	(0.67%, 0.837%, 0.902%, 1.431%, 1.62%, 2%, 2.69%, 3%, 3.23%, 3.4%, 3.93%, 4.03%, 5%, 5.37%, 5.38%, 5.53%, 6%, 6.69%, 6.72%, 7.28%, 7.5%, 8%, 9%, 10%, 12.5%, 16.17%, 17.2%, 20.97%, 24.2%, 27.9699%, 29.04%, 38.4%, 41.3%, 46.25%, 48.202%, 51.62%, 72.34%)
D	(0.15%, 0.36%, 1.8%)
Impr	(0.125%, 0.25%, 0.4%, 0.43%, 0.45%, 4.2%, 4.8%)
EC	(0.837%, 3%, 6%)
SC/L	(0.06%, 0.324%)
RTU	(0.05%, 0.06%, 0.075%, 0.08%, 0.1%, 0.107%, 0.121%, 0.14%, 0.25%, 0.27%, 0.3%, 0.5%, 0.6%)
PrL	(0.03%, 0.05%, 0.054%, 0.06%, 0.075%, 0.09%, 0.1%, 0.125%, 0.15%, 0.16%, 0.2%, 0.25%, 0.3%, 0.4%, 0.5%, 0.6%, 0.8%, 0.9%, 1.2%)

GENERAL WARNINGS AND LIMITATIONS:

Definition of Terms:

MAI - Multiple Active Ingredient(s)

Parenthesized pest name - Claims for pest control limited to suppression of population are indicated by entirely parenthesized pest name.

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*bioallethrin
d-trans-chrysanthemum monocarboxylic ester of dl-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

TERRESTRIAL NONFOOD CROP

(Ornamental Plants and Forest Trees)

General Warnings and Limitations: Apply with caution to African violet, ash, azalea, browallia, caenothus, camellia, columnea, cotoneaster, cyclamen, cypress, flowering quince, gloxinia, impatiens, jade, juniper, non-bearing mulberry, oxalis, plumosa fern, primrose, Reiger begonia, and rose, including hybrid tea rose. These plants may be subject to leaf or flower burn under certain conditions of use. As with all plants listed above, especially carnations, chrysanthemums and roses, there exists a wide variety of species and cultivars and therefore, a wide range of susceptibility to injury. To ascertain possible phototoxicity, spray a few plants, wait 24 hours and check for possible injury.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/31000AA	Ornamental Herbaceous Plants		
/35000AA	Ornamental and/or Shade Trees		Apply with caution to young plants and new growth. Do not apply when temperatures exceed 90 F (32.2 C).
/34000AA	Ornamental Woody Shrubs and Vines		
/02000DA			
/01010DA			
IRACAAA	Aphids	[MAI]	Foliar application. Spray pests directly. Apply in the evening or on a cloudy day when the air is still. Use a slow sweeping motion keeping the nozzle 18 inches away from the plants. Avoid wetting the foliage with the spray. For heavy growth spray the row on both sides. Repeat as needed. Formulated with one or a combination of: MGK 264, piperonyl butoxide, phenothrin, or resmethrin.
ITBCCFC	Armyworm (larvae)	-- (0.3% RTU)	
IZZZADA	Bud worms	or	
ITBCABA	Cutworms (including climbing cutworm)	-- or 1 ft of row/	
INBPAZA	Japanese beetle	sec of spray	
IQAXAAA	Lace bugs	(0.125-0.5%	
IRAFAAA	Leafhoppers	PrL)	
IRAWAMA	Longtailed mealybug		
INAPAFA	Mexican bean beetle		
ITCHADA	Mimosa webworm		
ITBNAOA	Oakworms		
IQAMAAA	Plant bugs		
ISAAABA	Sawflies		
IGDAACA	Slugs		
ILAVAAA	Spider mites (including twospotted spider mites)		
IRAEAAA	Spittlebugs		
ITAUADA	Tent caterpillars		
IMOAAAA	(Thrips)		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Ornamental Herbaceous Plants cluster (continued)		
	Pest list continued from previous page.		
ITAXAAA	Tussock moths (including gypsy moth)		
IRABAAA	Whiteflies		
/35000AA	(Ornamental and/or Shade Trees)		
ITAXAIA	Gypsy moth (larvae)	[MAI] 1 band/tree (0.125% Impr)	Bark application. Wrap the band around the trunk overlapping the ends and securing with paper clips. Formulated with resmethrin.
		[MAI] -- (0.15% PrL)	Bark application. Wrap the provided band around the trunk (approximately 5 to 6 feet above the ground) when larvae are first noticed. Spray the exposed surface of the band completely and evenly. Repeat at 7 day intervals as needed. Repeat application after heavy rainfall. Formulated with resmethrin.
ITAUADA	Tent caterpillars	[MAI] -- (0.107% RTU)	Foliar application. Apply when larvae are young and tents are first noticed. Apply in the late afternoon or evening when pests have returned to the nest. Saturate the tents (nests) thoroughly. Repeat as needed. Formulated with resmethrin.
	(Noncrop, Wide Area, and General Indoor/Outdoor Treatments)		
/670020A /770000A	Recreational Areas		
ISASAAA IMDAAAA ISBIADA IKAAAAA ISAAADA	Ants Earwigs Hornets Spiders Wasps	[MAI] 0.15-0.4% finished spray (0.15-0.4% PrL)	Outdoor treatment for nuisance pests on or entering buildings. Within 2 hours after treatment sweep up all dead pests and deposit these sweepings into a closed garbage container. For ants, spray trails, nests, and points of entry. Spray on ants where possible. Repeat as needed. Spray directly on earwigs in

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Recreational Areas (continued)		
			crevices and other hiding places on outdoor porches, patio floor and doorway entrances. Repeat as needed. For hornets and wasps, apply in late evening when pests are at rest. Spray liberally into hiding and breeding places, contacting as many pests as possible. Repeat as needed. Spray directly on stray wasps as they enter buildings. For spiders, direct short bursts of spray on spiders and repeat as needed. Formulated with resmethrin.
IOAAACA ITAAAPA IOAAAFA IOAUAFA IOAKAAA IOAMAAA	Biting flies Flying moths Gnats House fly Midges Mosquitoes	[MAI] 1-3 sec/cu.yd (0.1-0.4% PrL)	Outdoor treatment. Apply to pest resting areas. Hold the canister 18 to 24 inches away from shrubs, bushes, and grassy areas and spray with a slow sweeping motion while moving away from the treated areas. Formulated with one or a combination of: 2-hydroxyethyl octyl sulfide and resmethrin.
IOAAACA ITAAAPA IOAAAFA ICAUAFA IOAKAAA IOAMAAA	(Biting flies) (Flying moths) (Gnats) (House fly) (Midges) (Mosquitoes)	[MAI] 0.15-0.4% finished spray (0.15-0.4% PrL)	Outdoor treatment to reduce annoyance. Apply to open porches and patios in a slow sweeping motion while moving away from the treated areas. Spray only while the air is still. Allow the spray to dissipate before occupying the treated area. Repeat as necessary. Formulated with resmethrin.
/32008AA	**Weed Hosts of Plant Pathogens**		
		Refer to GREENHOUSE FOOD CROP, (Agricultural Crops), Agricultural Crops for use and limitation information.	

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	GREENHOUSE FOOD CROP		
	(Agricultural Crops)		
/28037AA /32008CA /28037AA /32008AA	Agricultural Crops (including asparagus, beans (green), beans (lima), beans (wax), beets (table), corn (field), corn (sweet), cucumbers, peas, peppers, spinach, squash (summer), and tomato)		N.F. Research crops grown in containers in and around the greenhouses of Del Monte Corporation, Alameda County, CA. No part of treated plants may be used as food or feed.
IRACAAA IMAAABA ILAAABA IMOAAAA IRABAAA	Aphids Flying insects Mites Thrips Whiteflies	[SLN] [MAI] -- (0.15% PrL)	SLN - Use limited to CA. Foliar application. Spray to wet surfaces or fill space. Repeat as needed. Formulated with resmethrin.

GREENHOUSE NONFOOD CROP

(Ornamental Plants and Forest Trees)

General Warnings and Limitations: Apply with caution to African violet, ash, azalea, browallia, caenothus, camellia, columnea, cotoneaster, cyclamen, cypress, flowering quince, gloxinia, impatiens, jade, juniper, non-bearing mulberry, oxalis, plumosa fern, primrose, Reiger begonia, and rose, including hybrid tea rose. These plants may be subject to leaf or flower burn under certain conditions of use. As with all plants listed above, especially carnations, chrysanthemums and roses, there exists a wide variety of species and cultivars and therefore, a wide range of susceptibility to injury. To ascertain possible phototoxicity, spray a few plants, wait 24 hours and check for possible injury. If application is made indoors, remove infested plants from living and eating areas prior to spray application. Spray several plants at once and in an area not likely to come in contact with pets, children or food. When leaves dry, plants can be returned to original position. If plant removal is not possible, remove or cover exposed food and food handling surfaces, including utensils. Shut off ventilating systems, air ducts and air conditioning equipment. Avoid spray contact with surrounding surfaces in area. Leave the sprayed area after treatment, and ventilate.

EPA Compendium of Acceptable Uses

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/32000CA /32000AA	Ornamental Plants (greenhouse)		
IRACAAA	Aphids	[MAI] -- or 1 ft of row/ sec of spray (0.15-0.4% PrL)	Foliar application. Spray pest directly. Spray short bursts from 1 to 3 seconds thoroughly covering all sides until foliage is slightly moist. Avoid heavy wetting. Repeat as needed. Formulated with resmethrin.
ITBCABA	Cutworms		
IRAFAAA	Leafhoppers		
IOAMAAA	Plant bugs		
IGDAACA	Slugs		
ILAVAAA	Spider mites (including twospotted spider mites)		
IRAEAAA	Spittlebugs		
IMOAAAA	(Thrips)		
IRABAAA	Whiteflies		
/32008CA	Weed Hosts of Plant Pathogens		Refer to GREENHOUSE FOOD CROP, (Agricultural Crops), Agricultural Crops for use and limitation information.

DOMESTIC OUTDOOR

General Warnings and Limitations: Bioallethrin is highly toxic to fish. Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). Drift from treated areas may be hazardous to organisms in adjacent aquatic sites. Do not contaminate water by cleaning of equipment or disposal of wastes.

(Household)

/630030A	Domestic Dwellings, Outdoor		
ISASAAA	Ants (including fire ants)	[MAI] 0.03-0.27% finished spray (0.06% SC/L) (0.05-0.27% RTU) (0.03-0.4% PrL)	Outdoor treatment. Spray infested areas thoroughly including outside surfaces of screens, doors, window frames, foundations, patios, or other places where pests may enter. For ants, spray hills and runways. Repeat as needed. Do not spray vegetation. Formulated with essential oils, 2-hydroxyethyl octyl sulfide, O-isopropoxyphenyl methylcarbamate, MGK 264, chlorpyrifos, piperonyl butoxide, vapona, and resmethrin.
ILAMAQA	Brown dog tick		
ILAVABA	Clover mite		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IMDAAAA	Earwigs		
IMNAAAA	Fleas		
IJCAAAA	Millipedes		
IIFAAEA	Sowbugs		

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Domestic Dwellings, Outdoor (continued)		
ISASAAA IJBAAAA IVAHAAA	Ants Centipedes Crickets	[MAI] 0.1-0.2% finished spray (0.1-0.2% PrL)	Outdoor treatment. Spray infested surfaces of patio or picnic area. Spray legs of tables and chairs to repel ants. Spray ant hills and trails. Formulated with methoxychlor, MGK repellant 827, essential oils, 2-hydroxyethyl octyl sulfide, MGK 264, and piperonyl butoxide.
ISASAAA IMDAAAA ISBIADA IJEBAAA IKAAAAA ISAAADA	Ants Earwigs Hornets Scorpions Spiders Wasps	[MAI] 0.05-0.4% finished spray (0.06% SC/L) (0.05-0.27% RTU) (0.15-0.4% PrL)	Outdoor treatment. For nuisance pests on or entering buildings. Within 2 hours after treatment sweep up all dead pests and deposit these sweepings into a closed garbage container. For ants, spray trails, nests, and points of entry. Spray on ants where possible. Repeat as needed. Spray directly on earwigs in crevices and other hiding places on outdoor porches, patio floor and doorway entrances. Repeat as needed. For hornets and wasps, apply in late evening when pests are at rest. Spray liberally into hiding and breeding places, contacting as many pests as possible. Repeat as needed. Spray directly on stray wasps as they enter buildings. For spiders, direct short bursts of spray and repeat as needed. Formulated with one or a combination of: O-isopropoxyphenyl methylcarbamate, MGK 264, piperonyl butoxide, or resmethrin.

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Domestic Dwellings, Outdoor (continued)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
ISAAACA ICAAACA ITAAAPA IOBMAAA IOAAAFA ISBIADA IOAUAFA IOAKAAA IOAMAAA ISAAADA ISBIAEA	Bees Biting flies (including deer flies and stable fly) Flying moths Fruit flies Gnats Hornets House fly Midges Mosquitoes Wasps Yellowjackets	[MAI] 0.1-0.5% finished spray [1-3 sec/cu.yd] (3% EC) (0.107% RTU) (0.1-0.5% PrL)	Outdoor treatment. Apply to pest resting aras. Spray 1.5 to 6 feet from shrubs, bushes, and grassy areas and spray with a slow sweeping motion while moving away from the treated areas. For bees, hornets, wasps, and yellowjackets, aim spray at nest openings in the ground, eves, bushes, and in cracks and crevices which may harbour nests, saturating nest opening and contacting as many pests as possible. Repeat as needed. Formulated with one or a combination of: 2-hydroxyethyl octyl sulfide, MGK 264, malathion, piperonyl butoxide, resmethrin, or fenvalerate.
IOAAACA ITAAAPA IOAAAFA IOAUAFA IOAKAAA IOAMAAA	(Biting flies) (Flying moths) (Gnats) (House fly) (Midges) (Mosquitoes)	[MAI] 0.05-0.6% finished spray (0.05-0.837% EC) (0.05-0.6% RTU) (0.1-0.3% PrL)	Outdoor treatment to reduce annoyance. Apply to open porches and patios in a slow sweeping motion while moving away from the treated areas. Spray only while the air is still. Allow the spray to dissipate before occupying the treated area. Repeat as necessary. Formulated with one or a combination of: methoxychlor, essential oils, 2-hydroxyethyl octyl sulfide, MGK 264, piperonyl butoxide, or resmethrin.
IOAAAAA ITAAAPA ISBIADA IOAMAAA ISAAADA	Flies Flying moths Hornets Mosquitoes Wasps	[MAI] 0.03% finished spray (0.03% PrL)	Outdoor treatment. Spray window wells and foundation wall above soil level, doors and window frames. Spray surfaces near light fixtures and other areas where pests are frequently seen or congregate. Formulated with MGK 264, diazinon, and piperonyl butoxide.

EPA Compendium of Acceptable Uses

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Domestic Dwellings, Outdoor (continued)		
IOAAAAA IOAMAAA	(Flies) (Mosquitoes)	[MAI] 0.1-0.5% finished spray (0.1-0.5% PrL)	Outdoor treatment to reduce annoyance. Spray outside surfaces of window and door frames as well as other areas where pests may enter premises. Also spray dark corners and localized resting areas (such as under eaves) or porches and patios where pests congregate. Formulated with one or a combination of: MGK 264, chlorpyrifos, or piperonyl butoxide.
IOAMAAA	(Mosquitoes)	[MAI] 0.25% and 0.4% mosquito coils (0.25%, 0.4% Impr)	Outdoor treatment. Place in confined outdoor areas where there is little or no breeze such as patios or porches. Light the outer end of the coil and place on the provided holder or a suitable dish or receptacle. Formulated with pyrethrum powder other than pyrethrins.

EPA Compendium of Acceptable Uses

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations

INDOOR

General Warnings and Limitations: Do not contaminate water by disposal of wastes. Remove pets and birds and cover fish aquariums before spraying. Do not linger in treated areas. Ventilate the area after treatment is completed. Do not apply as a space spray while food processing is underway. Except in federally inspected meat and poultry plants, when applied as a surface spray with care and in accordance with the directions and precautions given above, food processing operations may continue. Foods should be removed or covered before treatments. Thoroughly wash all food processing surfaces before reuse. In federally inspected meat and poultry plants, all surfaces in processing areas must be washed and rinsed in potable water after spraying. In other food processing plants, if washing of equipment, benches, shelving, etc., where exposed food will be handled, is impractical, do not allow food to come in contact with treated surfaces for at least 48 hours.

(Agricultural Crops)

/43026EA	Dried Fruits		4 ppm No preconsumption interval through 0.5 percent finished spray at 1 gallon per 50,000 cubic feet.
IMAAAFA	Stored product insects	[MAI] 0.5% finished spray [1 gal/ 50,000 cu.ft] (0.5% RTU)	Stored commodity treatment. Close room or warehouse and shut off all ventilating systems. Dispense as a fine mist in air above trays or shelves of dried fruit. Use appropriate spray equipment, cold aerosol generator or fixed ceiling sprayer to produce a very fine spray. Do not apply to fruit directly. If overhead sprayers are used, be sure that spray is discharged from at least 6 feet over top of trays. Ventilate after treatment. Formulated with MGK 264 and piperonyl butoxide.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations

(Ornamental Plants and Forest Trees)

General Warnings and Limitations: Apply with caution on African violet, ash, azalea, browallia, caenothus, camellia, columnea, cotoneaster, cyclamen, cypress, flowering quince, gloxinia, impatiens, jade, juniper, non-bearing mulberry, oxalis, plumosa fern, primrose, Relger begonia, and rose, including hybrid tea rose. These plants may be subject to leaf or flower burn under certain conditions of use. As with all plants listed above, especially carnations, chrysanthemums and roses, there exists a wide variety of species and cultivars and therefore, a wide range of susceptibility to injury. To ascertain possible phototoxicity, spray a few plants, wait 24 hours and check for possible injury. If application is made indoors, remove infested plants from living and eating areas prior to spray application. Spray several plants at once and in an area not likely to come in contact with pets, children or food. When leaves dry, plants can be returned to original position. If plant removal is not possible, remove or cover exposed food and food handling surfaces, including utensils. Shut off ventilating systems, air ducts and air conditioning equipment. Avoid spray contact with surrounding surfaces in area. Leave the sprayed area after treatment, and ventilate.

/32000AA	Houseplants		
IRACAAA IQAXAAA ILAVAAA IMOAAAA	Aphids Lace bugs Spider mites Thrips (exposed)	[MAI] -- (0.3% RTU) (0.125-0.25% PrL)	Foliar application. Spray in short bursts, holding the canister 18 inches from the foliage. Spray both sides of the leaves. Do not wet. Repeat as needed. Leave the spray area and ventilate after treatment. Formulated with MGK 264, piperonyl butoxide, and resmethrin.

Refer to GREENHOUSE NONFOOD CROP, (Ornamental Plants and Forest Trees), Ornamental Plants (greenhouse) for additional use and limitation information.

/320000A Ornamental Plants in Commercial and Institutional Buildings and Indoor Landscapes

Refer to GREENHOUSE NONFOOD CROP, (Ornamental Plants and Forest Trees), Ornamental Plants (greenhouse) for additional use and limitation information.

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	(Processed or Manufactured Products, and Food or Feed Container or Dispensers)		
/43027EA	Processed Food		2 ppm No preconsumption interval through 0.5 percent finished spray at 1 fluid ounce per 1,000 cubic feet.
IMAAAFA	Stored product insects	[MAI] 0.5% finished spray [1 fl.oz/ 1,000 cu.ft] (0.5% RTU)	Indoor space spray treatment. Close room or warehouse and shut off all ventilating systems. Use appropriate spray equipment or fixed ceiling sprayers that produce a very fine spray. Ventilate area after treatment. Repeat as necessary. Formulated with MGK 264 and piperonyl butoxide.
	(Pets and Domestic Animals)		
/54002IA /54003IA	Cats Dogs		Do not apply to animals under 6 weeks of age.
IMNAAAA ILAAACA	Fleas Ticks	[MAI] -- (3% EC) (0.107% RTU) (0.054-0.4% PrL)	Animal treatment. Apply directly to animals along the back, under forelegs and on other areas except the scrotum and anus. Part hair to contact skin and insure good coverage. Hold nozzle about 1 foot away while spraying. Apply until the hair is moist. Do not directly spray in animals' eyes or mouth. Repeat within 24 hours of first treatment if necessary. Spray ticks directly. Formulated with one or a combination of: MGK repellent R-11, MGK 264, phenothrin, or resmethrin.
/54003IA IMNAAAA ILAAACA	(Dogs) Fleas Ticks	-- (0.25% RTU)	Animal dip treatment. Swab or sponge the entire coat of the dog and allow the dog to dry in a warm place without rinsing or towelling. Repeat at 7 day intervals. Do not apply to puppies. Dog may be washed between dips.

EPA Compendium of Acceptable Uses

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Cats cluster (continued)		
		[MAI] shampoo (0.05-0.1% RTU)	Animal shampoo treatment. Wet animal thoroughly. Starting at the head and working back, rub shampoo over animals' entire body until the animal is covered with lather. Work the lather into the hair to wet the skin. Allow the lather to stay on the animal for 5 to 10 minutes. Rinse and towel dry. Keep shampoo away from the dog's eyes and mouth. Formulated with one or a combination of: MGK 264, piperonyl butoxide, or resmethrin.
/56005IA	Horses		
			Do not apply to horses intended for slaughter.
IOBKACA	Deer flies	[MAI] -- (0.14% RTU)	Animal treatment. Apply as a repellent. Brush animal to remove loose dust and dirt. Moisten folded turkish towelling with material. Wipe briskly against the growth of hair, giving special attention to shanks, legs, shoulders, neck, and face. Repeat as necessary, but not over 2 times per day. Groom with brush. Formulated with oil of citronella, dipropyl isocinchomeronate, and piperonyl butoxide.
IOAUAEA	Face fly		
IMNAAAA	Fleas		
IOAAAFA	Gnats		
IOAUADA	Horn fly		
IOBKABA	Horse fly		
IOAUAFA	House fly		
IOAMAAA	Mosquitoes		
IOAUAHA	Stable fly		

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

(Animals and Their Man-Made Premises)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/54002JA /54003JA	Cat Sleeping Quarters Dog Sleeping Quarters and Kennels		
ILAMAQA IMNAAAA ILAMACA	Brown dog tick Fleas Lone star tick	[MAI] 0.03-0.6% finished spray or 2 sec of spray/linear ft (0.837-6% EC) (0.05-0.6% RTU) (0.03-0.5% PrL)	Animal premise treatment. Keep nozzle 1 to 1.5 feet from surfaces when spraying. Remove and destroy pets' old bedding. Spray sleeping quarters of pets, around baseboards, window and door frames, walls, cracks and local areas of floors. Repeat as needed. Put fresh bedding in pets' quarters after spray has dried. For kennels, apply to outside runways, window ledge and sills. Formulated with one or a combination of: essential oils, 2-hydroxyethyl octyl sulfide, MGK repellent R-11, O-isopropoxyphenyl methylcarbamate, MGK 264, chlorpyrifos, piperonyl butoxide, phenothrin, vapona, resmethrin, or fenvalerate.
IMNAAAA	Fleas	43.33-50 oz by wt 3% PrL/10,000 sq.ft (0.3% PrL)	Indoor total release fog treatment. Cover asphalt tile, waxed wood floors and furniture. Open all cabinets, closets and interior doors to areas to be treated. Use additional units for remote rooms or 2 where free flow of mist is not assured. Remove fish tanks and bowls. Cover exposed foods, dishes, and food handling equipment. Close outside doors and windows; turn off fans and air-conditioning; extinguish all open flames except pilot light. Set the canister on a table, chair, or stand a minimum of 6 feet from the pilot light. Place several layers of newspaper under the canister to prevent marring of the surface. Remove the canister cover. Hold it at arm's length, aiming the top of the can away from face. Press the lever down firmly until it locks. This
IMNAAAA ILAAACA	Fleas Ticks	[MAI] 10-12.5 oz by wt 0.3% PrL/up to 10,000 cu.ft (0.3% PrL) or 5-6 oz by wt 0.6% PrL/up to 10,000 sq.ft (0.6% PrL) or 3 oz by wt 1.2% PrL/10,000 cu.ft (1.2% PrL)	

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Cat Sleeping Quarters cluster (continued)		
			will start the fogging action. Set the canister on the newspaper and leave the treatment area at once, closing the exterior door. Leave the area undisturbed for 2 to 4 hours then ventilate for 30 minutes before reoccupying. Remove and destroy old pet bedding before treatment. Treat dogs and cats with a registered flea control product before allowing them to re-enter area. May be formulated with phenothrin, vapona, or fenvalerate.
/50003JA	Farm Milk Houses		
ITAAAPA IOAAAFA IOAUAFA IOAMAAA	Flying moths Gnats House fly Mosquitoes	[MAI] 0.8% finished spray (0.8% PrL)	Automatic indoor space spray. For use in automatically-timed discharged devices. Using the metered valve provided, which gives a dosage of 27.5 milligrams set to discharge every 7.5 minutes or 55 milligrams every 15 minutes, 1 unit will control flying moths, gnats, house fly, and mosquitoes in an area of approximately 6,000 cubic feet. Factors such as shape of area, temperature, humidity and air currents all affect insect activity and may modify the exact area protected. Insect control will build up within 2 hours after unit is in operation. Formulated with piperonyl butoxide.
/56005JA	Horse Barns		

Refer to TERRESTRIAL NONFOOD CROP, (Noncrop, Wide Area, and General Indoor/Outdoor Treatments), Recreational Areas for use and limitation information.

Refer to (Commercial and Industrial Uses), Aircraft cluster for use and limitation information.

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	(Household)		
/630070A	Domestic Dwellings, Contents		
ISASAAA IVAAABA IMNAAAA IMPBACA ILAAACA	Ants Cockroaches Fleas Silverfish Ticks	-- (0.15-1.8% D)	Carpet treatment. Sprinkle evenly over carpet and adjacent floors. Wait 30 minutes then vacuum. Apply only to areas that can be vacuumed. Avoid use on wet spots. If material adheres to spot, rub with a stiff brush and vacuum. For ticks, leave material on surface for 2 hours. Formulated with one or a combination of: piperonyl butoxide, tetramethrin, or phenothrin.
IQAFACA IMAAADA	Bed bug Lice	[MAI] 0.1-0.6% finished spray (3-6% EC) (0.107-0.6% RTU) (0.15-0.5% PrL)	Spray treatment. Spray mattresses, particularly around tufts and seams. Take the bed apart and spray into all joints. Treat baseboards, moldings, and floors. Allow treated fabric to dry thoroughly before use. Formulated with one or a combination of: MGK 264, chlorpyrifos, piperonyl butoxide, or resmethrin.
INATABA INATAAA	Carpet beetles Dermestid beetles	[MAI] 0.03-0.6% finished spray (6% EC) (0.06% SC/L) (0.05-0.6% RTU) (0.03-0.5% PrL)	Spray treatment. Directly spray as may pests as possible. Spray both interior and exterior of upholstered furniture. Spray the top and bottom of rugs and carpets thoroughly. Also spray shelves, closets, areas under furniture and wherever these pests are seen or suspected. Repeat as needed. Formulated with one or a combination of: O-isopropoxyphenyl methylcarbamate, MGK 264, diazinon, chlorpyrifos, piperonyl butoxide, vapona, or resmethrin.
IMNAAAA ILAAACA	Fleas Ticks	[MAI] 0.3% finished spray [90 sec/100 sq.ft] (0.3% PrL)	

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/630010A	Domestic Dwellings, Indoor		
ISASAAA	Ants	[MAI] 0.05-0.6% finished spray [1 fl.oz/ 1,000 sq.ft] (0.837-6% EC) (0.06-0.3% SC/L) (0.05-0.6% RTU) or 0.03-0.6% finished spray (0.03-0.6% PrL)	Indoor treatment. Spray directly on insects wherever possible and in areas where pests may be found, such as in carpets, under sinks, firewood piles, drainboards, cabinets, cracks and crevices on baseboards, pipes, around door sills, window frames, screens, garbage cans, refuse areas in attics, behind shelving, bookcases, storage areas and other areas where pests may be found. Repeat as needed. For ants, spray hills, and trails over windows and door sills. For stored product insects and grain mite, find and destroy infested package goods. Remove all other items from pantry. Spray the shelves. Place clean paper on the shelves and return packages after shelves have dried. For spiders, spray webbing. Formulated with one or a combination of: essential oils, 2-hydroxyethyl octyl sulfide, O-isopropoxyphenyl methylcarbamate, MGK 264, diazinon, chlorpyrifos, piperonyl butoxide, piperonal bis[2-(2-butoxyethoxy)ethyl] acetal, phenothrin, silica gel, vapona, resmethrin, or fenvalerate.
IJBAAAA	Centipedes		
ILAVABA	Clover mite		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IMDAAAA	Earwigs		
IMPBABA	Firebrats		
IMNAAAA	Fleas		
ILABABA	Grain mite		
IJCAAAA	Millipedes		
IMBPACA	Silverfish		
IIFAAEA	Sowbugs		
IKAAAAA	Spiders (including black widow spider)		
IMAAAFA	Stored product insects		
ILAAACA	Ticks		

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Domestic Dwellings, Indoor (continued)		
ISASAAA ISAAACA INATAHA IJBAAAA IVAAABA IVAHAAA IMDAAAA IMNAAAA IOAAAAA ITAAAPA IOBMAAA IOAAAFA ISBIADA IMAAADA IOAMAAA INASDRA INARAGA IJEBAAA IMPBACA IIFAAEA IKAAAAA ILAAACA ISAAADA ISBIAEA	Ants Bees Black carpet beetle Centipedes Cockroaches Crickets Earwigs Fleas Flies Flying moths Fruit flies Gnats Hornets Lice Mosquitoes Rice weevil Sawtoothed grain weevil Scorpions Silverfish Sowbugs Spiders Ticks Wasps Yellowjackets	[MAI] 10-12.5 oz by wt 0.3% PrL/up to 10,000 cu.ft (0.3% PrL) or 5-6 oz by wt 0.6% PrL/up to 10,000 cu.ft (0.6% PrL) or 3 oz by wt 1.2% PrL/ 10,000 cu.ft (1.2% PrL)	Indoor total release fog treatment. Cover asphalt tile, waxed wood floors and furniture. Open all cabinets, closets and interior doors to areas to be treated. Use additional units for remote rooms or where free flow of mist is not assured. Remove fish tanks and bowls. Cover exposed foods, dishes, and food handling equipment. Close outside doors and windows; turn off fans and air-conditioning; extinguish all open flames except pilot light. Set the canister on a table, chair, or stand a minimum of 6 feet from the pilot light. Place several layers of newspaper under the canister to prevent marring of the surface. Remove the canister cover. Hold it at arms length, aiming the top of the can away from face. Press the lever down firmly until it locks. This will start the fogging action. Set the canister on the newspaper and leave the treatment are at once, closing the exterior door. Leave the area undisturbed for 2 to 4 hours then ventilate for 30 minutes before reoccupying. Formulated with phenothrin, vapona, or fenvalerate.
IMNAAAA	Fleas	[MAI] 43.33-50 oz by wt 0.3% PrL/up to 10,000 sq.ft (0.3% PrL)	
ISASAAA IMDAAAA	Ants Earwigs	marker stick (0.45% Impr)	Indoor treatment. Mark inside corners in kitchen, including drawers, ledges, shelves, pantry, inside walls, and pest points of entry.
ISAAACA ISBIADA ISAAADA ISBIAEA	Bees Hornets Wasps Yellowjackets	[MAI] 0.05-0.4% finished spray (3% EC) (0.05-0.3% RTU) (0.15-0.4% PrL)	Indoor treatment. Apply in the late evening when pests are at rest. Apply liberally to hiding and breeding places, especially under rafters, contacting as many pests as possible. Repeat as needed. Formulated with one or a combina-

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Domestic Dwellings, Indoor (continued)		
			tion of: MGK 264, chlorpyrifos, or resmethrin.
IOAAAAA ITAAAPA IOBMAAA IOAAAFA IOAKAAA IOAMAAA ISAAADA	Flies (including deer flies and stable fly) Flying moths Fruit flies Gnats Midges Mosquitoes Wasps	[MAI] 0.075-0.6% finished spray [0.5-1 fl.oz/1,000 cu.ft] (3-6% EC) (0.075-0.6% RTU) or 0.075-0.6% finished spray [5-10 sec/ 1,000 cu.ft] (0.075-0.6% PrL)	Indoor space spray treatment. Close all doors and windows. Direct the spray to all parts of the room, particularly the upper corners and other areas, filling the room with mist. Spray 3 to 4 feet from surfaces. Keep the room closed for 10 to 15 minutes after spraying. Try to spray wasps directly. For hornets and wasps, keep the room closed for 35 minutes after spraying. In all cases ventilate the room thoroughly before re-entering. Formulated with one or a combination of: MGK 264, piperonyl butoxide, piperonal bis[2-(2-butoxyethoxy)ethyl] acetal, phenothrin, resmethrin, or fenvalerate.
ISBIADA ISAAADA	Hornets Wasps	[MAI] 0.4% finished spray [35 sec/ 1,000 cu.ft] (0.4% PrL)	
ITAAAPA IOAAAFA IOAUAFA IOAMAAA	Flying moths Gnats House fly Mosquitoes	[MAI] 0.9% finished spray (0.9% PrL)	Automatic indoor space spray. For use in hotels and motels. For use in automatic activators set to dispense a 100 gram dose every 15 minutes. For use only in after hours on a 12 hour basis. Use 1 aerosol in an automatic activator for each 6,000 cubic feet of room space to be treated. Install the activator on a wall approximately 7 feet from the floor. Do not install directly over any food handling or dispensing area. The rate of air change, shape of space to be treated, humidity and temperature affect insect activity and insect control. One unit per 6,000

Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
Domestic Dwellings, Indoor (continued)		
		cubic feet should be considered an average ratio. Adjust the ratio depending upon the conditions under which the activator is used. Usually the effectiveness of this formula will be noticeable within 1 hour after the activator is started. Do not remain in treated areas. Ventilate thoroughly before re-entry. The 12 ounce aerosol contains enough material to operate 68 days on a 12 hour basis. It is suggested the aerosol be changed once every 2 months on a 12 hour basis. Formulated with piperonyl butoxide.
	[MAI] 0.8% finished spray (0.8% PrL)	Automatic indoor space spray. For use in hotels and motels. For use in automatically-timed discharged devices. Using the metered valve provided, which gives a dosage of 27.5 milligrams set to discharge every 7.5 minutes or 55 milligrams every 15 minutes, 1 unit will control flying moths, gnats, house fly, and mosquitoes in an area of approximately 6,000 cubic feet. Factors such as shape of area, temperature, humidity and air currents all affect insect activity and may modify the exact area protected. Insect control will build up within 2 hours after unit is in operation. Formulated with piperonyl butoxide.
IDAMAAA (Mosquitoes)	1 tablet/512 cu.ft (4.8% Impr)	Indoor treatment. Place tablet in a provided electrical heater. Vapors last up to 10 hours. In sleeping quarters, use 1 to 2 hours prior to occupation and unplug while people are sleeping.

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	(Commercial and Industrial Uses)		
/70001JC	Aircraft (non-feed/food)		
/70007JC	Automobiles (non-feed/food)		
/77000JC	Commercial, Industrial and Institutional Areas (other than edible product areas)		
/72004JC	Eating Establishments (areas other than edible product areas)		
/71000JC	Food Processing Plants (areas other than edible product areas)		
/70005JC	Railway Cars (non-food/feed)		
/70004JC	Ship Holds		
/70006JC	Trucks (non-food/feed)		
ISASAAA	Ants	[MAI] 10-12 oz by wt 0.3% PrL/ 10,000 cu.ft of unobstructed area (0.3% PrL)	Indoor total release fog treatment. Cover asphalt tile, waxed wood floors and furniture. Open all cabinets, closets and interior doors to areas to be treated. Use additional units for remote rooms or where free flow of mist is not assured. Remove fish tanks and bowls. Cover exposed foods, dishes, and food handling equipment. Close outside doors and windows; turn off fans and air-conditioning; extinguish all open flames except pilot light. Set the canister on a table, chair, or stand a minimum of 6 feet from the pilot light. Place several layers of newspaper under the canister to prevent marring of the surface. Remove the canister cover. Hold it at arms length, aiming the top of the can away from face. Press the lever down firmly until it locks. This will start the fogging action. Set the canister on the newspaper and leave the treatment area at once, closing the exterior door. Leave the area undisturbed for 2 to 4 hours then ventilate for 30 minutes before reoccupying. Formulated with phenothrin and vapona.
INATAHA	Black carpet beetle		
IVAAABA	(Cockroaches)		
IMNAAAA	Fleas		
IOAAAAA	Flies		
ITAAAPA	Flying moths		
IOAMAAA	Mosquitoes		
INASDRA	Rice weevil		
INARAGA	Sawtoothed grain weevil		
IJEBAAA	Scorpions		
IKAAAAA	Spiders		
ILAAACA	Ticks		

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Aircraft (non-feed/food) cluster (continued)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
ISASAAA	Ants	[MAI] 0.06-0.4% finished spray (0.06-0.4% PrL)	Indoor treatment. Spray directly on insects wherever possible and in areas where pests may be found, such as in carpets, under sinks, drainboards, cabinets, cracks and crevices on baseboards, pipes, around doorsills, window frames, screens, garbage cans, refuse areas in attics, behind shelving, bookcases, storage areas and other areas where pests may be found. Repeat as needed. For ants, spray hills and trails over windows and door sills. For spiders, spray webs. Formulated with one or a combination of: MGK 264, piperonyl butoxide, piperonal bis[2-(2-butoxyethoxy)ethyl] acetal, phenothrin, resmethrin, or fenvalerate.
IJBAAAA	Centipedes		
IVAHAAA	Crickets		
IVAAABA	Cockroaches		
IMDAAAA	Earwigs		
IMNAAAA	Fleas		
ILABABA	Grain mite		
IMPBACA	Silverfish		
IIFAAEA	Sowbugs		
IKAAAAA	Spiders (including black widow spider)		
IOAAAAA	Flies	[MAI] 5-10 sec/ 1,000 cu.ft (0.15-0.4% PrL)	Indoor space spray treatment. Close all doors and windows. Direct the spray to all parts of the room, particularly the upper corners and other areas, filling the room with mist. Keep the room closed for 15 minutes after spraying. For hornets and wasps, keep the room closed for 35 minutes after spraying. Ventilate the room thoroughly before reentering. Formulated with one or a combination of: MGK 264, piperonyl butoxide, piperonal bis[2-(2-butoxyethoxy)ethyl] acetal, phenothrin, or resmethrin.
ITAAAPA	Flying moths		
IOAAAFA	Gnats		
IOAMAAA	Mosquitoes		
ISAAADA	Wasps		
ISBIADA	Hornets	[MAI] 35 sec/1,000 cu.ft (0.15-0.4% PrL)	
ISAAADA	Wasps		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/77000JB	Commercial, Industrial and Institutional Areas (edible)		
/72000JB	Eating Establishments (edible)		
/71000JB	Food Processing Plants (edible)		
ISASAAA ILAMAQA INATABA IVAAABA IVAHAAA INATAAA IMDAAAA IMNAAAA ILABABA IMPBACA IIFAAEA IKAAAAA IMAAAFA	Ants Brown dog tick Carpet beetles Cockroaches Crickets Dermestid beetles Earwigs Fleas Grain mite Silverfish Sowbugs Spiders Stored product insects	[MAI] 0.05-0.6% finished spray [1 fl.oz/ 1,000 sq.ft] (0.837%-6% EC) (0.05-0.6% RTU) or 0.05-0.5% finished spray (0.05-0.5% PrL)	Indoor spot treatment. Apply around baseboards, behind, and beneath cabinets, refrigerators, sinks, stoves, and in and around waste containers. Contact as many pests as possible. For ants, spray trails and places where ants enter premises. Spot treatment may encompass crack and crevice treatment by applying small amounts of material directly into openings leading to voids and hollow spaces in walls, equipment legs and bases or which occur at points between different elements of construction or between equipment and floors. For grain mite and stored product insects, find and destroy infested package goods. Remove all other items from the pantry. Spray the shelves to kill pests present. Place clean paper on the shelves and return the packages after the shelves have dried. Repeat as needed. Formulated with MGK 264, chlorpyrifos, piperonyl butoxide, phenothrin, and resmethrin.
ISASAAA INATABA IVAAABA INATAAA IMDAAAA ILABABA IMPBACA IIFAAEA IMAAAFA	Ants Carpet beetles Cockroaches Dermestid beetles Earwigs Grain mite Silverfish Sowbugs Stored product insects	[MAI] 0.05-0.1% finished spray (0.05-0.1% RTU)	Indoor crack and crevice treatment. Apply in small amounts directly to cracks and crevices using equipment capable of delivering a pin stream of spray. Apply to points between different elements of construction such as between equipment and floors, openings leading to voids and hollow spaces in walls, equipment legs and bases. Repeat as needed. Formulated with one or a combination of: MGK 264, chlorpyrifos, piperonyl butoxide, or resmethrin.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Commercial, Industrial and Institutional Areas (edible) cluster (continued)		
IOAAAAA ITAAAPA IOAAAFA IOAMAAA IMAAAFA	Flies Flying moths Gnats Mosquitoes Stored product insects	[MAI] 0.1-0.5% finished spray [5-10 sec/ 1,000 cu.ft] (0.1-0.5% PrL)	Indoor space spray treatment. Close all doors and windows. Direct the spray to all parts of the room, particularly the upper corners and other areas, filling the room with mist. Keep the room closed for 15 minutes after spraying. Ventilate the room thoroughly before re-entering. For stored product insects, also spray around processing equipment, stored food product containers, pallets and darkened areas. Formulated with one or a combination of: MGK 264, piperonyl butoxide, phenothrin, or resmethrin.
		[MAI] 0.075-0.6% finished spray [0.5-1 fl.oz/1,000 cu.ft] (6% EC) (0.075-0.6% RTU) or thermal dry fog 0.1% finished spray [1.33 fl.oz/ 1,000 cu.ft] (0.1% RTU)	Indoor space spray treatment. Close all doors and windows, shut off all air-conditioning and ventilating equipment. Apply with mechanical or compressed air sprayer or fogger adjusted for small partical size. Direct spray to all parts of the room, particularly the upper corners and ceiling. Fill the room with mist or fog. Keep the room closed for 10 to 15 minutes. Ventilate the room thoroughly before re-entering. Formulated with one or a combination of: MGK 264, chlorpyrifos, piperonyl butoxide, or resmethrin.
ITAAAPA IOAAAFA IOAUAFA IOAMAAA	Flying moths Gnats House fly Mosquitoes	[MAI] 0.9% finished spray (0.9% PrL)	Automatic indoor space spray. For use in automatic activators set to dispense a 100 gram dose every 15 minutes. For use only after hours on a 12 hour basis. Use 1 aerosol in an automatic activator for each 6,000 cubic feet of room space to be treated. Install the activator on a wall approximately 7 feet from the floor. Do not install directly

Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
Commercial, Industrial and Institutional Areas (edible) cluster (continued)		
		over any food handling or dispensing area. The rate of air change, shape of space to be treated, humidity and temperature affect insect activity and insect control. One unit per 6,000 cubic feet should be considered an average ratio. Adjust the ratio depending upon the conditions under which the activator is used. Usually the effectiveness of this formula will be noticeable within 1 hour after the activator is started. Do not remain in treated areas. Ventilate thoroughly before re-entry. The 12 ounce aerosol contains enough material to operate 68 days on a 12 hour basis. It is suggested the aerosol be changed once every 2 months on a 12 hour basis. Formulated with piperonyl butoxide.
	[MAI] 0.8% finished spray (0.8% PrL)	Automatic indoor space spray. For use in automatically-timed discharged devices. Using the metered valve provided, which gives a dosage of 27.5 milligrams set to discharge every 7.5 minutes or 55 milligrams every 15 minutes, 1 unit will control flying moths, gnats, house flies, and mosquitoes in an area of approximately 6,000 cubic feet. Factors such as shape of area, temperature, humidity and air currents all affect insect activity and may modify the exact area protected. Insect control will build up within 2 hours after unit is in operation. Formulated with piperonyl butoxide.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/770000A	Commercial, Industrial and Institutional Areas, Outdoor		
		Refer to TERRESTRIAL NONFOOD CROP, (Noncrop, Wide Area, and General Indoor/Outdoor Treatments), Recreational Areas for use and limitation information.	
	AERIAL, MOTHPROOFING, AND TANK MIX APPLICATIONS		
9009000 AAAAAAA	Mothproofing		
	--	Refer to INDOOR (Household)	Domestic Dwellings Contents

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation

&293.0001 93% technical chemical
d-trans allethrin (allyl homolog of cinerin I) (004003)
000432-00541* 005086-00006
*jacket currently unavailable for review

&299.9901 99.99% technical chemical
d-trans allethrin (allyl homolog of cinerin I) (004003)
005086-00012*
*jacket currently unavailable for review

&200.6702 0.67% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), methoxychlor, technical (034001), 2-hydroxyethyl octyl sulfide (046301) plus piperonyl butoxide, technical (067501)
001021-01046

&200.8402 0.837% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus chlorpyrifos (059101)
001021-01503

&200.9002 0.902% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101) plus petroleum distillate (063503)
001021-01438*
*jacket currently unavailable for review

&201.4302 1.431% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101) plus petroleum distillate (063503)
001021-01506

&201.6202 1.62% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus 2,2-dichlorovinyl dimethyl phosphate and related compounds (084001)
001021-01463*
*jacket currently unavailable for review

&202.0002 2% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101) plus piperonyl butoxide, technical (067501)
001021-01220

Listing of Registered Pesticide Products by Formulation (continued)

&202.6902 2.69% formulation intermediate

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00577*
*jacket currently unavailable for review

&203.0002 3% formulation intermediate

d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
000432-00699

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00532*
*jacket currently unavailable for review

&203.2302 3.23% formulation intermediate

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus cyano(3-phenoxyphenyl)methyl 4-chloro-alpha-(1-methylethyl)benzene-acetate (109301)
001021-01480*
*jacket currently unavailable for review

&203.4002 3.4% formulation intermediate

d-trans allethrin (allyl homolog of cinerin I) (004003), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00721

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00693*
*jacket currently unavailable for review

&203.9302 3.93% formulation intermediate

d-trans allethrin (allyl homolog of cinerin I) (004003), 2-hydroxyethyl octyl sulfide (046301), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
001021-01455*
*jacket currently unavailable for review

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation (continued)

&204.0302 4.03% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003)
000432-00576*
*jacket currently unavailable for review

&205.0002 5% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl- 3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
000432-00485

&205.3702 5.37% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00574*
*jacket currently unavailable for review

&205.3802 5.38% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003)
000432-00524*
*jacket currently unavailable for review

&205.5302 5.53% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003)
000432-00522*
*jacket currently unavailable for review

&206.0002 6% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503), (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005) plus 2,2-dichlorovinyl dimethyl phosphate and related compounds (084001)
001021-01452*
*jacket currently unavailable for review

&206.6902 6.69% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), 2-hydroxyethyl octyl sulfide (046301) plus petroleum distillate (063503)
001021-01225*
*jacket currently unavailable for review

&206.7202 6.72% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00512*
*jacket currently unavailable for review

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation (continued)

&207.2802 7.28% formulation intermediate

d-trans allethrin (allyl homolog of cinerin I) (004003), heavy aromatic naphtha (006602), petroleum distillate (063503) plus cyano(3-phenoxyphenyl)methyl 4-chloro-alpha-(1-methylethyl)-benzeneacetate (109301)

001021-01487*

*jacket currently unavailable for review

&207.5002 7.5% formulation intermediate

d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)

000432-00488

&208.0002 8% formulation intermediate

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), malathion (057701) plus piperonyl butoxide, technical (067501)

001021-01100

&209.0002 9% formulation intermediate

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)

001021-01128

&210.0002 10% formulation intermediate

d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)

000432-00508

d-trans allethrin (allyl homolog of cinerin I) (004003) plus permethrin (109701)

000432-00584*

*jacket currently unavailable for review

&212.5002 12.5% formulation intermediate

d-trans allethrin (allyl homolog of cinerin I) (004003) plus permethrin (109701)

000432-00581

&216.1702 16.17% formulation intermediate

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus cyano(3-phenoxyphenyl)methyl 4-chloro-alpha-(1-methylethyl)benzeneacetate (109301)

001021-01390* 001021-01486*

*jacket currently unavailable for review

Listing of Registered Pesticide Products by Formulation (continued)

&217.2002 17.2% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00537*
*jacket currently unavailable for review

&220.9702 20.97% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00513*
*jacket currently unavailable for review

&224.2002 24.2% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00511*
*jacket currently unavailable for review

&227.9702 27.9699% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
000432-00604

&229.0402 29.04% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00514*
*jacket currently unavailable for review

&238.4002 38.4% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
000432-00531#
#cancelled

&241.3002 41.3% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum derivative solvent (006501) plus (5-benzyl-3-furyl)-methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00531*
*jacket currently unavailable for review

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation (continued)

&246.2502 46.25% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00528*
*jacket currently unavailable for review

&248.2002 48.202% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
000432-00602

&251.6202 51.62% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00515*
*jacket currently unavailable for review

&272.3402 72.34% formulation intermediate
d-trans allethrin (allyl homolog of cinerin I) (004003)
000432-00540*
*jacket currently unavailable for review

&000.1503 0.15% dust
d-trans allethrin (allyl homolog of cinerin I) (004003), piperonyl butoxide, technical (067501) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
000778-00075*
*jacket currently unavailable for review

&000.3603 0.36% dust
d-trans allethrin (allyl homolog of cinerin I) (004003), piperonyl butoxide, technical (067501) plus tetramethrin (069003)
000778-00068

&001.8003 1.8% dust
d-trans allethrin (allyl homolog of cinerin I) (004003) plus piperonyl butoxide, technical (067501)
000778-00067

&000.1210 0.125% impregnated materials
d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate
(097801)
047184-00001

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation (continued)

&000.2510 0.25% impregnated materials
d-trans allethrin (allyl homolog of cinerin I) (004003), allethrin coil (004002), malachite green (039504) plus pyrethrum powder other than pyrethrins (069002)
003095-00021

d-trans allethrin (allyl homolog of cinerin I) (004003), allethrin coil (004002), sodium benzoate (009103), malachite green (039504), pyrethrum powder other than pyrethrins (069002) plus potassium nitrate (076103)
003095-00015

&000.4010 0.4% impregnated materials
d-trans allethrin (allyl homolog of cinerin I) (004003), allethrin coil (004002), sodium benzoate (009103), malachite green (039504), pyrethrum powder other than pyrethrins (069002) plus potassium nitrate (076103)
003095-00014

&000.4310 0.43% impregnated materials
d-trans allethrin (allyl homolog of cinerin I) (004003), allethrin coil (004002) plus pyrethrum powder other than pyrethrins (069002)
010171-00002*
*jacket currently unavailable for review

&000.4510 0.45% impregnated materials
d-trans allethrin (allyl homolog of cinerin I) (004003)
009075-00002

&004.2010 4.2% impregnated materials
d-trans allethrin (allyl homolog of cinerin I) (004003)
043917-00001*
*jacket currently unavailable for review

&004.8010 4.8% impregnated materials
d-trans allethrin (allyl homolog of cinerin I) (004003)
047838-00001

&200.8412 0.837% emulsifiable concentrate
d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus chlorpyrifos (059101)
000334-00501   001021-01439   005197-00058   043332-00002
044654-00002

&203.0012 3% emulsifiable concentrate
d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate
(097801)
000432-00655

Listing of Registered Pesticide Products by Formulation (continued)

&206.0012 6% emulsifiable concentrate
d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus piperonyl butoxide, technical (067501)
001021-01449

&200.0615 0.06% soluble concentrate/liquid
d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), 0,0-diethyl 0-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate (057801) plus piperonyl butoxide, technical (067501)
000478-00095

&200.3215 0.324% soluble concentrate/liquid
d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), ronnel (058301) plus chlorpyrifos (059101)
001193-00054

&200.0516 0.05% liquid-ready to use
d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus chlorpyrifos (059101)
000016-00123 000070-00225 000192-00154 000239-02492
000334-00469 000419-00223 000478-00109 000485-00054
000491-00250 000861-00114 001270-00214 001748-00141
002019-00035 003282-00069 003624-00174 003696-00110
004887-00185 004972-00058 005197-00057 005693-00071
007992-00029 008590-00549 008845-00076 010663-00032
010806-00044 010807-00079 011474-00040 011525-00065
011598-00047 011715-00110 034224-00014 037346-00013
040849-00003 045991-00012 051793-00001

d-trans allethrin (allyl homolog of cinerin I) (004003) plus permethrin (109701)
050654-00001*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), chlorpyrifos (059101) plus xylene range aromatic solvent (086803)
009688-00043*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus (3-phenoxyphenyl)-methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
002596-00075* 002596-00076
*jacket currently unavailable for review

0.05% liquid-ready to use (continued)

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101) plus petroleum distillate (063503)
002155-00102* 006720-00343* 006723-00009* 007885-00049
010583-00011* 037425-00010* 042249-00005*
*jacket currently unavailable for review

&200.0616 0.06% liquid-ready to use

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus cyano(3-phenoxyphenyl)methyl 4-chloro-alpha-(1-methylethyl)benzeneacetate (109301)
000070-00254*
*jacket currently unavailable for review

&200.0716 0.075% liquid-ready to use

d-trans allethrin (allyl homolog of cinerin I) (004003) plus N-octyl bicycloheptene dicarboximide (057001)
000239-02554 001553-00089 005440-00105 008550-00028
008845-00057

&200.0816 0.08% liquid-ready to use

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus (3-phenoxyphenyl)-methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
000778-00072 008590-00640 008845-00103 009143-00091
011715-00120

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
006175-00039 046473-00002*
*jacket currently unavailable for review

&200.1016 0.1% liquid-ready to use

d-trans allethrin (allyl homolog of cinerin I) (004003) plus N-octyl bicycloheptene dicarboximide (057001)
002596-00071

d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
012050-00001 003635-00182

&200.0519 0.05% pressurized liquid

d-trans allethrin (allyl homolog of cinerin I) (004003) plus chlorpyrifos (059101)
009688-00063*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00579

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus chlorpyrifos (059101)
000475-00247 002019-00041 003095-00046 007992-00038
011598-00055

d-trans allethrin (allyl homolog of cinerin I) (004003), chlorpyrifos (059101) plus xylene range aromatic solvent (086803)
009688-00045* 009688-00062*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001) plus chlorpyrifos (059101)
000498-00133 007056-00117 045746-00011

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101) plus piperonyl butoxide, technical (067501)
046813-00024 046813-00035*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), chlorpyrifos (059101), petroleum distillate (063503) plus xylene range aromatic solvent (086803)
009688-00047* 011598-00050
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101) plus petroleum distillate (063503)
000478-00111 000675-00049 003282-00011 004206-00038
007885-00050 010806-00052

d-trans allethrin (allyl homolog of cinerin I) (004003), O-isopropoxyphenyl methylcarbamate (047802), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000506-00133* 008845-00058 011598-00039 011598-00038
*jacket currently unavailable for review

Listing of Registered Pesticide Products by Formulation (continued)

0.05% pressurized liquid (continued)

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000334-00456 000498-00115 000778-00050 003696-00099
004206-00035 004972-00029 007368-00053* 007992-00026
011598-00017 011715-00099 033176-00004 035576-00032
038664-00003 040849-00008 042710-00010 045991-00009
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), essential oils (040501), O-isopropoxyphenyl methylcarbamate (047802), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
051033-00075

&200.0519 0.054% pressurized liquid

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus (3-phenoxyphenyl)-methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
002596-00097 002596-00098

d-trans allethrin (allyl homolog of cinerin I) (004003), 2,3:4,5-bis(2-butylene)tetrahydro-2-furaldehyde (043302), N-octyl bicycloheptene dicarboximide (057001) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
002596-00069 002596-00070

&200.0619 0.06% pressurized liquid

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), piperonyl butoxide, technical (067501) plus cyano(3-phenoxyphenyl)methyl 4-chloro-alpha-(1-methyl-ethyl)benzeneacetate (109301)
000498-00130* 003095-00040* 010806-00061 011598-00057
011715-00165*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus cyano(3-phenoxyphenyl)methyl 4-chloro-alpha-(1-methylethyl)benzeneacetate (109301)
000070-00256* 000654-00132* 010900-00070*
*jacket currently unavailable for review

Listing of Registered Pesticide Products by Formulation (continued)

0.1% liquid-ready to use (continued)

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus piperonyl butoxide, technical (067501)
011474-00006

&200.1116 0.107% liquid-ready to use
d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00599 005736-00045 035138-00059

&200.1216 0.121% liquid-ready to use
d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus piperonyl butoxide, technical (067501)
000541-00229

&200.1416 0.14% liquid-ready to use
d-trans allethrin (allyl homolog of cinerin I) (004003), oil of citronella (021901), dipropyl isocinchomeronate (047201) plus piperonyl butoxide, technical (067501)
000270-00155

&200.2516 0.25% liquid-ready to use
d-trans allethrin (allyl homolog of cinerin I) (004003) plus petroleum distillate (063503)
011466-00001*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus piperonyl butoxide, technical (067501)
000713-00017 000861-00103 001021-01394 001221-00041
001270-00222 001769-00226 002270-00579 005440-00104
011715-00098 038174-00001 038664-00002

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001325-00062* 011583-00002*
*jacket currently unavailable for review

&200.2716 0.27% liquid-ready to use
d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
004822-00187

0.27% liquid-ready to use (continued)

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), petroleum distillate (063503) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
004822-00188*
*jacket currently unavailable for review

&200.3016 0.3% liquid-ready to use
d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
004822-00183 004822-00186

&200.5016 0.5% liquid-ready to use
d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus piperonyl butoxide, technical (067501)
000257-00327 006720-00341 008590-00550 011474-00022

&200.6016 0.6% liquid-ready to use
d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus piperonyl butoxide, technical (067501)
000334-00495 000491-00249 001021-00141 006218-00044

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), piperonyl butoxide, technical (067501) plus cyano(3-phenoxyphenyl)methyl 4-chloro-alpha-(1-methyl-ethyl)benzeneacetate (109301)
007056-00122

&200.0319 0.03% pressurized liquid
d-trans allethrin (allyl homolog of cinerin I) (004003), O-isopropoxyphenyl methylcarbamate (047802), petroleum distillate (063503) plus 2,2-dichlorovinyl dimethyl phosphate and related compounds (084001)
007992-00016

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), 0,0-diethyl 0-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate (057801), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000478-00096

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
008845-00087

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation (continued)

&200.0719 0.075% pressurized liquid
d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00578

&200.0919 0.09% pressurized liquid
d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
008845-00086

&200.1019 0.1% pressurized liquid
d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00575*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
013891-00005

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000334-00379 000432-00486 003181-00017 013898-00013

d-trans allethrin (allyl homolog of cinerin I) (004003), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00722*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), 2-hydroxyethyl octyl sulfide (046301) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000478-00080

d-trans allethrin (allyl homolog of cinerin I) (004003), 2-hydroxyethyl octyl sulfide (046301), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
003282-00068

0.1% pressurized liquid (continued)

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
054282-00035* 054282-00041*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), piperonyl butoxide, technical (067501), silica gel (072602) plus isoparaffinic hydrocarbons (505200)
003282-00064

d-trans allethrin (allyl homolog of cinerin I) (004003), methoxychlor, technical (034001), 2-hydroxyethyl octyl sulfide (046301), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
003282-00025 003696-00101* 008590-00568 011598-00012
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), O-isopropoxyphenyl methylcarbamate (047802), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001769-00295 001769-00311 005927-00011#
#cancelled

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
008848-00040

&200.1219 0.125% pressurized liquid

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000099-00122 000334-00380 000419-00193 000419-00197
000419-00198 000432-00507 000498-00116 006718-00020*
007056-00087 008845-00065 010900-00036 011525-00036
011715-00059 033764-00003
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), petroleum distillate (063503) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
000784-00092 004822-00136

&200.1519 0.15% pressurized liquid

d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)

000334-00526 000432-00482 000432-00536 001266-00175
003298-00033 004822-00288* 007056-00085 007056-00126
008590-00600 009143-00066 034797-00050 041019-00003
041835-00005 048668-00003

*jacket currently unavailable for review

(000432-00536) CA790068

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum derivative solvent (006501) plus (5-benzyl-3-furyl)-methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)

040831-00090

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)

000334-00381 000478-00077 001270-00189* 003314-00029
003314-00032 004000-00058 004000-00087 004476-00072
004476-00074 004584-00089 005736-00040 008845-00074
009444-00066 009444-00070 011525-00004 011694-00047
013898-00011* 025708-00001 033764-00002 044400-00002
044400-00003

*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)

000334-00519

d-trans allethrin (allyl homolog of cinerin I) (004003), piperonyl butoxide, technical (067501) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)

004822-00289

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), essential oils (040501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)

007992-00012

0.15% pressurized liquid (continued)

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), petroleum distillate (063503) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)

000201-00372*	000478-00076	000498-00117	000654-00115*
000654-00125*	003314-00028	005887-00115	007056-00094
008590-00599	011715-00058		

*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801) plus isoparaffinic hydrocarbons (505200)
004822-00163

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
009688-00053

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
000432-00601

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)-methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
004822-00141

&200.1619 0.16% pressurized liquid

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methyl-propenyl)cyclopropanecarboxylate (097801)
000475-00179

d-trans allethrin (allyl homolog of cinerin I) (004003), kerosene (063501), piperonyl butoxide, technical (067501) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000201-00372*

*jacket currently unavailable for review

&200.2019 0.2% pressurized liquid

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000239-02546 000334-00382 000432-00509* 007056-00092
010807-00041 011715-00057
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), 2-hydroxyethyl octyl sulfide (046301) plus (3-phenoxyphenyl)-methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
004822-00185

d-trans allethrin (allyl homolog of cinerin I) (004003), 2-hydroxyethyl octyl sulfide (046301) plus (5-benzyl-3-furyl)-methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00617

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus piperonyl butoxide, technical (067501)
003282-00022

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), 2-hydroxyethyl octyl sulfide (046301) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000475-00180 004822-00099

d-trans allethrin (allyl homolog of cinerin I) (004003), dimethrin (034101), 2-hydroxyethyl octyl sulfide (046301) plus petroleum distillate (063503)
011715-00014*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), 2-hydroxyethyl octyl sulfide (046301), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000778-00049 008590-00628

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
011525-00005

0.2% pressurized liquid (continued)

d-trans allethrin (allyl homolog of cinerin I) (004003), methoxychlor, technical (034001), 2-hydroxyethyl octyl sulfide (046301), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
008845-00061   010728-00001+   036334-00007
+suspended

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), malathion (057701), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
007056-00050

d-trans allethrin (allyl homolog of cinerin I) (004003), methylene chloride (042004), N-octyl bicycloheptene dicarboximide (057001), malathion (057701), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus trichloroethylene (081202)
054282-00017*
*jacket currently unavailable for review

&200.2519 0.25% pressurized liquid

d-trans allethrin (allyl homolog of cinerin I) (004003) plus piperonyl butoxide, technical (067501)
007056-00041

d-trans allethrin (allyl homolog of cinerin I) (004003) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)-cyclopropanecarboxylate (069005)
004822-00290

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
003635-00195

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus piperonyl butoxide, technical (067501)
045746-00006

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus piperonal bis[2-(2-butoxyethoxy)-ethyl] acetal (068801)
000475-00152   000475-00154

0.25% pressurized liquid (continued)

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)
000432-00603

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), petroleum distillate (063503) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
004822-00165

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000257-00303   001663-00018   001663-00019   003282-00027
004584-00079   005719-00048#   006693-00053   007173-00155
007885-00007   011598-00004   054282-00040*
*jacket currently unavailable for review
#cancelled

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonal bis[2-(2-butoxyethoxy)ethyl] acetal (068801)
000334-00365   000334-00366   011592-00003*   054282-00022*
054282-00023*   054282-00024*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), piperonyl butoxide, technical (067501) plus isoparaffinic hydrocarbons (505200)
043686-00001

d-trans allethrin (allyl homolog of cinerin I) (004003), essential oils (040501), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonal bis[2-(2-butoxyethoxy)ethyl] acetal (068801)
001266-00118

&200.3019 0.3% pressurized liquid

d-trans allethrin (allyl homolog of cinerin I) (004003) plus piperonyl butoxide, technical (067501)
000475-00153

d-trans allethrin (allyl homolog of cinerin I) (004003) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)-cyclopropanecarboxylate (069005)
007506-00112*   045746-00004   046813-00007*
*jacket currently unavailable for review

0.3% pressurized liquid (continued)

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001) plus piperonyl butoxide, technical (067501)
007368-00079 045746-00008

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000475-00210 000475-00230

d-trans allethrin (allyl homolog of cinerin I) (004003), kerosene (063501) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
000769-00465* 008590-00520 008848-00034
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
000239-02463 000239-02484 000239-02512 000270-00158
000270-00227 000475-00215 000478-00094 000654-00121
000778-00044 001193-00081 002596-00077 003282-00059
003298-00035 003696-00098 004077-00083 004990-00061
005693-00060 005719-00081 007368-00047 007405-00061
007754-00024 007992-00023 008845-00066 009143-00068
009688-00037* 009688-00038 010370-00135 010806-00042
010807-00063 011525-00040 011525-00042 011525-00055
011598-00032 011598-00051 011623-00013* 011694-00079*
011715-00062 011715-00063 011715-00064 040849-00005
043686-00002 045991-00004
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus cyano(3-phenoxyphenyl)methyl 4-chloro-alpha-(1-methylethyl)benzeneacetate (109301)
009444-00101*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)-cyclopropanecarboxylate (069005) plus 2,2-dichlorovinyl dimethyl phosphate and related compounds (084001)
008848-00048*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001) plus chlorpyrifos (059101)
002019-00034

Listing of Registered Pesticide Products by Formulation (continued)

0.3% pressurized liquid (continued)

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)

000334-00362   000334-00363*   000334-00364*   000778-00053
000778-00054   000778-00070   002915-00051#   003181-00021
004206-00021   004584-00084   005590-00140#   007405-00059
007885-00006   009422-00006   010807-00070   011598-00005
011715-00100   033176-00021   033955-00551   046813-00001

*jacket currently unavailable for review
#cancelled

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)

009688-00041   009688-00051

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503), (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005) plus 2,2-dichlorovinyl dimethyl phosphate and related compounds (084001)

000499-00222   003282-00067   003696-00114   008845-00079
010807-00078   011715-00102   047000-00002*

*jacket currently unavailable for review

&200.4019 0.4% pressurized liquid

d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)

000303-00216*   000432-00593   001685-00102

*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801)

001553-00134

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), petroleum distillate (063503) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)

000004-00288   000239-02557   000334-00467   000432-00542*
000654-00119*   003181-00018   003696-00103   007056-00086
007992-00017   008845-00064   009143-00064   009591-00081
010292-00027   011715-00056   035897-00003   047612-00003

*jacket currently unavailable for review

0.4% pressurized liquid (continued)

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), petroleum distillate (063503), (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate (097801) plus isoparaffinic hydrocarbons (505200)
011525-00037

&200.5019 0.5% pressurized liquid

d-trans allethrin (allyl homolog of cinerin I) (004003) plus piperonyl butoxide, technical (067501)
000475-00193

d-trans allethrin (allyl homolog of cinerin I) (004003), O-isopropoxyphenyl methylcarbamate (047802) plus petroleum distillate (063503)
009688-00060*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000475-00209

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
004822-00172

d-trans allethrin (allyl homolog of cinerin I) (004003), aromatic petroleum distillate (006601), petroleum distillate (063503) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
004822-00139

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000334-00496 033176-00028 054282-00039*
*jacket currently unavailable for review

&200.6019 0.6% pressurized liquid

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
011715-00081

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Listing of Registered Pesticide Products by Formulation (continued)

0.6% pressurized liquid (continued)

d-trans allethrin (allyl homolog of cinerin I) (004003), N-octyl bicycloheptene dicarboximide (057001), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
004822-00113

&200.8019 0.8% pressurized liquid
d-trans allethrin (allyl homolog of cinerin I) (004003) plus (5-benzyl-3-furyl)methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate (097801)
000334-00521*
*jacket currently unavailable for review

d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503), piperonyl butoxide, technical (067501) plus pyrethrins (069001)
046813-00015

&200.9019 0.9% pressurized liquid
d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
007710-00019 009422-00007

&201.2019 1.2% pressurized liquid
d-trans allethrin (allyl homolog of cinerin I) (004003), petroleum distillate (063503) plus (3-phenoxyphenyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate (069005)
011715-00096

EPA Compendium of Acceptable Uses

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Appendix A-1

Listing of Active Ingredient(s) Found in Combination with the Report Chemical

Chemical Code	Common Name (source)	EPA Acceptable Common/Chemical Name
004002	allethrin coil	--
006501	aromatic petroleum derivative solvent	--
006601	aromatic petroleum distillate	--
059101	chlorpyrifos	--
057801	diazinon (ISO)	O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate
034101	dimethrin	--
047201	dipropyl isocinchomeronate	--
040501	essential oils	--
109301	fenvalerate (ISO)	cyano(3-phenoxyphenyl)methyl 4-chloro-alpha-(1-methylethyl)benzeneacetate
006602	heavy aromatic naphtha	--
046301	2-hydroxyethyl octyl sulfide	--
505200	isoparaffinic hydrocarbons	--
047802	O-isopropoxyphenyl methylcarbamate	--
063501	kerosene	--
057001	MGK 264	N-octyl bicycloheptene dicarboximide
043302	MGK repellent R-11	2,3:4,5-bis(2-butylene)tetrahydro-2-furaldehyde
039504	malachite green	--
057701	malathion	--

Appendix A-1

Listing of Active Ingredient(s) Found in Combination with the Report Chemical (continued)

Chemical Code	Common Name (source)	EPA Acceptable Common/Chemical Name
034001	methoxychlor	methoxychlor, technical
042004	methylene chloride	--
021901	oil of citronella	--
109701	permethrin	--
063503	petroleum distillate	--
069005	phenothrin	(3-phenoxyphenyl)-methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate
068801	piperonal bis[2-(2-butoxyethoxy)-ethyl] acetal	--
067501	piperonyl butoxide	piperonyl butoxide, technical
076103	potassium nitrate	--
069001	pyrethrins	--
069002	pyrethrum powder other than pyrethrins	--
097801	resmethrin	(5-benzyl-3-furyl)-methyl 2,2-dimethyl-3-(2-methylpropenyl)-cyclopropanecarboxylate
058301	ronnel	--
072602	silica gel	--
009103	sodium benzoate	--
069003	tetramethrin	--

D-TRANS ALLETHRIN (ALLYL HOMOLOG OF CINERIN I)

Appendix A-1

Listing of Active Ingredient(s) Found in Combination with the Report Chemical (continued)

Chemical Code	Common Name (source)	EPA Acceptable Common/Chemical Name
004003	d-trans allethrin	d-trans allethrin (allyl homolog of cinerin I)
081202	trichloroethylene	--
084001	vapona	2,2-dichlorovinyl dimethyl phosphate and related compounds
086803	xylene range aromatic solvent	--

-- Use Common Name

EPA Compendium of Acceptable Uses

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

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c004004 D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE*

TYPE PESTICIDE: Insecticide

FORMULATIONS:
Tech (90%)
FI (0.3%, 0.434%, 1.486%, 2.628%, 3.18%, 3.87%, 4.175%, 5.3%, 5.569%, 5.8%, 6.15%, 6.187%, 7.42%, 7.74%, 7.89%, 8.918%, 9.28%, 9.285%, 10%, 11.14%, 13.92%, 83.5%)
EC (0.319%, 0.788%, 2.973%)
SC/L (0.928%, 1.394%)
RTU (0.01197%, 0.0232%, 0.028%, 0.036%, 0.0603%, 0.116%, 0.16%, 0.163%, 0.325%, 0.326%, 0.372%, 2.973%)
PrL (0.025%, 0.028%, 0.049%, 0.0603%, 0.116%, 0.163%, 0.186%, 0.197%)

GENERAL WARNINGS AND LIMITATIONS: None.

*S-Bioallethrin

EPA Compendium of Acceptable Uses

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	TERRESTRIAL NONFOOD CROP		
	(Ornamental Plants and Forest Trees)		
/32000AA	Ornamental Plants		Apply with caution to young plants and new growth, particularly new rose growth since some varieties may exhibit phytotoxicity. Do not apply to impatiens during bloom period. Do not spray when temperatures exceed 90 F (32.2 C).
IRACAAA	Aphids	[MAI] -- (0.186% PrL)	Foliar application. Apply when air is calm. Using a slow sweeping motion, avoid wetting foliage with spray. Apply to rows at the rate of 1 foot per second. For heavy growth, spray row on both sides. Repeat as needed. Formulated with one or a combination of: MGK 264 and piperonyl butoxide.
INAMACA	Cucumber beetles		
ITANAAC	Geometrid moths (larvae)		
INBPAZA	Japanese beetle		
IQAXAAA	Lace bugs		
IRAWAAA	Mealybugs		
INAPAFC	Mexican bean beetle (larvae)		
ILAAABA	Mites		
IZZZAUA	Plantslugs		
ITBCCLC	Southern armyworm (larvae)		
IRABAAA	Whiteflies		

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

DOMESTIC OUTDOOR

General Warnings and Limitations: S-bioallethrin is highly toxic to fish. Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). Drift from treated areas may be hazardous to organisms in adjacent aquatic sites. Do not contaminate water by cleaning of equipment or disposal of wastes.

(Domestic Dwellings)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/630030A /670020A	Domestic Dwellings (Outdoor)		Formulated with one or a combination of: 2-hydroxyethyl octyl sulfide, MGK 264, or piperonyl butoxide.
ISASAAA	Ants	[MAI] -- (0.116-0.186% PrL)	Outdoor application. Apply as a contact and surface spray. Spray infested surfaces of patio and picnic areas, directly contacting as many pests as possible. For ants and cockroaches, spray legs of tables and chairs to repel pests. For ants, also spray ant hills and trails. Repeat as needed.
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IJECAAA	Pseudoscorpions		
IIFAAEA	Sowbugs		
IOAAAAA	Flies (including gnats and mosquitoes)	[MAI] 1-3 sec/cu.yd (0.116-0.186% PrL)	Outdoor space spray application. Apply while moving away from treated area. Also treat open porches and patios in a similar way. Spray only when air is still. Allow spray to dissipate before re-entry to treated area. Repeat as needed. For wasps, also spray nests for a minimum of 4 to 6 seconds from a distance of approximately 2 feet, soaking nest thoroughly with the spray. Apply at dusk or when wasps are not active. Repeat as needed.
ITAAABA	Moths		
ISAAADA	Wasps		

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	INDOOR		
	General Warnings and Limitations: Do not contaminate water by disposal of wastes.		
	(Pets and Domestic Animals)		
	General Warnings and Limitations: Do not spray animals directly.		
/54000JA	Pet Sleeping Quarters		
ILAMAQA IMNAAAA	Brown dog tick Fleas	[MAI] 1:16 dilution (0.788% EC) or 1:7 dilution (2.973% EC) or 1:1.5 dilution (0.928% SC/L) or 1:2.5 dilution (1.394% SC/L) or -- (0.372% RTU)	Premise and bedding treatment. Dilute the emulsifiable concentrate formulations in petroleum distillate or water, the soluble concentrate formulation in petroleum distillate, and apply the liquid-ready to use formulation undiluted. Remove and destroy animals' bedding and spray sleeping quarters freely. Direct spray into cracks and crevices. Allow spray to dry and replace clean bedding. Repeat as needed. Formulated with one or a combination of: MGK 264, chlorpyrifos, or piperonyl butoxide.

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

(Animals and Their Man-made Premises)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/56005IA	Horses		
/56008IA	Ponies		Do not use on horses intended for human consumption.
IOBKACA	Deer flies	[MAI] 1:7 or 1:4 dilution [15 fl.oz finished spray/animal] (0.319% EC)	Animal treatment. Apply with pressure sprayer. Thoroughly wet animal's coat with finished spray. Repeat at 3 to 4 day intervals or as needed. For gnats, horn fly, house fly and mosquitoes, apply the less concentrate dilution. For deer flies, horse flies, stable fly and ticks, apply the more concentrated dilution. For ticks, apply 32 fluid ounces per animal to completely saturate the animals' coat and skin. Avoid getting finished spray into animals' eyes. Formulated with butoxypolypropylene glycol, pine oil and piperonyl butoxide.
IOAAAFA	Gnats		
IOAUADA	Horn fly		
IOBKABA	Horse flies		
IOAUAFA	House fly		
IOAMAAA	Mosquitoes		
IOAUAHA	Stable fly		
ILAAACA	Ticks		
		[MAI] -- (0.16% RTU)	Animal treatment, wipe on. Prior to application, brush animal to remove loose dirt and debris. Moisten a piece of turkish toweling with formulation. Rub briskly against lay of hair, paying special attention to shanks, legs, shoulders, neck and facial area of animal. Apply as needed depending on size of animal, then groom with a brush. Formulated with butoxypolypropylene glycol, oil of citronella, dipropyl isocinchomeronate and piperonyl butoxide.

EPA Compendium of Acceptable Uses

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

(Domestic Dwellings)

General Warnings and Limitations: All food processing surfaces and utensils should be covered during treatment, or thoroughly washed prior to use. Exposed food should be covered or removed. Remove pets, birds, and cover aquaria and remove prior to spraying. When diluted with water, the emulsifiable concentration formulation should not be used in conduits, motor housings and electrical switch boxes. Care should be taken to avoid depositing the finished spray onto exposed surfaces or introducing the spray into the air.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/63001DA	Domestic Dwellings (Indoor)		
ISASAAA	Ants	[MAI] 1:7 dilution [1 gal/1,000 sq.ft] (2.973% EC) or 1:1.5 dilution [1 gal/1,000 sq.ft] (0.928% SC/L) or 1:2.5 dilution [1 gal/1,000 sq.ft] (1.394% SC/L) or 1 gal 0.163-0.372% RTU/ 1,000 sq.ft (0.163-0.372% RTU) or -- (0.116-0.137% PrL)	Indoor treatment. Apply as a contact and surface spray with a sprayer that will emit coarse wet droplets. For ants, centipedes, cockroaches, crickets, earwigs, firebrat, millipedes, silverfish, sowbugs, and spiders, force spray into cracks and crevices in walls and floors, areas at base of machinery, hidden surfaces under sinks, behind cabinets, stoves and refrigerators, around pipes and openings, along baseboards and other pest harbourages. For ants, spray trails and all points of entry into building such as doors and window sills. Spray ant nests directly with a soaking application. Repeat as needed. For exposed form of confused flour beetle, lesser grain borer, rice weevil and sawtoothed grain beetle, find and destroy infested packaged goods and remove all other items from pantry. Spray shelves and place clean paper on the shelves and return packages after shelves have dried. Repeat as needed. For fleas, remove and destroy animals' bedding and spray sleeping quarters. Direct spray into cracks and crevices. Allow spray to dry and replace clean bedding. Repeat as needed.
IJBAAAA	Centipedes		
IVAAABA	Cockroaches		
INBUATA	Confused flour beetle		
IVAHAAA	Crickets		
IMDAAAA	Earwigs		
IMPBABA	Firebrat		
IMNAAAA	Fleas		
INAEAEA	Lesser grain borer		
IJCAAAA	Millipedes		
IMMAAAA	Psocids		
INASDRA	Rice weevil		
INARAGA	Sawtoothed grain beetle		
IMPBACA	Silverfish		
IIFAAEA	Sowbugs		
IKAAAAA	Spiders		

Domestic Dwellings (Indoor) (continued)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
			Formulated with one or a combination of: MGK 264 and piperonyl butoxide.
ISASAAA IVAAABA IMPBACA	Ants Cockroaches Silverfish	[MAI] -- (0.0232-0.0603% RTU) or 1-2 ft/sec (0.025-0.0603% PrL)	Indoor treatment. Apply as a surface spray. Do not allow children in treated area until surface is dry. For ants, spray ant trails and areas around windows and doors where pests may enter premises. Also apply around water pipes, heat ducts, electrical outlets, and baseboards where pests may enter rooms from wall voids. For cockroaches and silverfish, spray into cracks, crevices, behind cabinets, pipes, sinks, refrigerators, and other places where pests are found. Also apply around all pipe openings through walls, under linoleum, and open cracks between tiles. For pressurized liquid formulations, remove dishes and food, then spray closet shelves and allow to dry. Turn out pilot light and spray stove (turn on pilot light after 10 minutes has elapsed). Repeat as needed. Formulated with one or a combination of: MGK 264, diazinon, or piperonyl butoxide.
ISASAAA INATAFA IJBAAAA IVAAABA IVAHAAA IMDAAAA IMNAAAA IOAAAAA IMPBABA	Ants Carpet beetle (including black carpet beetle) Centipedes Cockroaches Crickets Earwigs Fleas Flies (including gnats, house fly and mosquitoes) Firebrat	[MAI] 1:7 dilution [0.5-1 fl.oz/1,000 cu.ft] (2.973% EC) or	Indoor space spray treatment. Apply dilutions with mechanical or compressed air sprayer or with fogger that emits droplets of small mass media. Apply undiluted soluble concentrate formulations with a cold fog generator. Close room and shut off all air conditioning and ventilating equipment. Direct spray upwards towards upper corners of room and ceiling. For the 0.326 percent liquid-ready to use formulation apply with atomizing equipment capable of producing spray parti-

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Domestic Dwellings (Indoor) (continued)		
	Pest list continued from previous page.		
IJCAAAA ITAAABA IMMAAAA IIFAAEA IKAAAAA IMPBACA IMAAAFA	Millipedes Moths (including angoumois grain moth, Indianmeal moth and webbing clothes moth) Psocids Sowbugs Spiders Silverfish Stored product insects (exposed) (including angoumois grain moth, cadelle, confused flour beetle, Indianmeal moth, lesser grain borer, mealworms, Mediterranean flour moth, rice weevil and sawtoothed grain beetle)	1:1.5 dilution [0.5-1 fl.oz/1,000 cu.ft] or undiluted [0.5 fl.oz/ 1,000 cu.ft] (0.928% SC/L) or 1:2.5 dilution [0.5-1 fl.oz/1,000 cu.ft] or undiluted [0.5 fl.oz/ 1,000 cu.ft] (1.394% SC/L) or -- (0.163-0.372% RTU) or 1-2 fl. oz 0.326% RTU/ 1,000 cu.ft	cles 0 to 50 microns in size. Apply higher rate when controlling crawling pests as well as flying pests. For pressurized liquid formulations, thoroughly spray all parts of the room particularly toward the ceiling while keeping can about 3 feet from walls, fabrics, and furniture. Spray 5 to 10 seconds for average sized room (1,000 cubic feet). For wasps, contact pests directly with spray. Repeat as needed. For angoumois grain moth and Indianmeal moth, pay special attention to areas around stored food product containers and darkened areas. Vacate room and leave closed for 15 minutes. For undiluted cold fog, allow room to stay closed for 0.5 hour. Ventilate thoroughly prior to reentry. Sweep up and destroy fallen pests. Repeat as needed. Formulated with one or a combination of: MGK 264 and piperonyl butoxide.
ISAAADA	Wasps	(0.326% RTU) or -- (0.116-0.197% PrL)	

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/630050A	Domestic Dwellings (Indoor)		
/77000JC	Excluding Food Handling Areas		
ISASAAA	Ants	[MAI]	Indoor treatment. Apply as a surface spray. Dilute the emulsifiable concentrate formulation in petroleum distillate or water and apply the liquid-ready to use formulation undiluted. Spray surface to wetting. For ants, cockroaches, crickets, earwigs, silverfish, sowbugs and spiders, spray into cracks, crevices, around baseboards and other places where pests hide. Apply behind and beneath cabinets, refrigerators, sinks, stoves, and in and around waste containers. Contact directly as many pests as possible. For ants, spray trails and places where pests enter premises. Repeat as needed. For brown dog tick and fleas, remove and destroy old bedding. Spray sleeping quarters of pets, around baseboards, window and door frames, wall cracks, and localized areas of floors. Repeat as needed. For dermestid beetles, spray along baseboards, edges of carpeting, under carpets and rugs, under furniture, in closets, on shelves, and in other places of harbourage. Repeat as needed. Formulated with one or a combination of: MGK 264, chlorpyrifos, or piperonyl butoxide.
ILAMAQA	Brown dog tick	1:16 dilution	
IVAAABA	Cockroaches	(0.788% EC)	
IVAHAAA	Crickets	or	
INATAAA	Dermestid beetles	-- (0.036% RTU)	
IMDAAAA	Earwigs		
IMNAAAA	Fleas		
IMPBACA	Silverfish		
IIFAAEA	Sowbugs		
IKAAAAA	Spiders		

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/630070A	Domestic Dwellings Contents		
IQAFACA INATAFA	Bed bug Carpet beetle	[MAI] 1:7 dilution [1 gal/1,000 sq.ft] (2.973% EC) or 1:1.5 dilution [1 gal/1,000 sq.ft] (0.928% SC/L) or 1:2.5 dilution [1 gal/1,000 sq.ft] (1.394% SC/L) or 1 gal 0.163-0.372% RTU/ 1,000 sq.ft (0.163-0.372% RTU) or -- (0.116-0.197% PrL)	Application to domestic dwellings contents. For bed bugs, spray mattresses thoroughly, especially around seams and tufts. Spray bedstand, baseboards, floor boards, and wall cracks and crevices. Allow spray to dry before contact. Repeat frequently. For carpet beetles, directly spray as many pests as possible. Spray both interior and exterior of upholstered furniture. Both top and undersides of rugs and carpets should be sprayed thoroughly. Formulated with one or a combination of: MGK 264 and piperonyl butoxide.

(Noncrop, Wide Area, and General Indoor/Outdoor Treatments)

/670020A Recreational Areas (including camping areas and picnic areas)

Refer to DOMESTIC OUTDOOR, (Domestic Dwellings), Domestic Dwellings (Outdoor) for use and limitation information.

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

(Commercial and Industrial Uses)

General Warnings and Limitations: When diluted with water, the emulsifiable concentrate formulation should not be used in conduits, motor housings, and electrical switch boxes. Care should be taken to avoid depositing the finished spray onto exposed surfaces or introducing the spray into the air. Avoid contamination of food or food processing surfaces.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/700270A	Aircraft		
/700280A	Buses		Formulated with MGK 264 and piperonyl butoxide.
/700040A	Ships		
ISASAAA	Ants	[MAI] 1 gal 0.326% RTU/1,000 sq.ft (0.326% RTU)	Indoor treatment. Apply as a general, spot, or crack and crevice spray with a sprayer that will emit either a fine flat fan spray or pin stream spray pattern. Apply to all cracks and crevices where pests hide and breed. Contact directly as many pests as possible.
INATAFA	Carpet beetle		
IJBAAAA	Centipedes		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IMDAAAA	Earwigs		
IMNAAAA	Fleas		
IOAAAAA	Flies (including gnats and mosquitoes)		
IMPBABA	Firebrat	[MAI] 1-2 fl.oz 0.326% RTU/ 1,000 sq.ft (0.326% RTU)	Indoor space spray treatment. Apply with atomizing equipment capable of producing spray particles 0 to 50 microns in size. Apply higher rate when controlling crawling pests as well as flying pests. Close all windows and doors, turn off all ventilating equipment. Keep area closed for 10 minutes. Ventilate area for 30 minutes prior to reentry.
IJCAAAA	Millipedes		
ITAAABA	Moths (including clothes moth)		
IMMAAAA	Psocids		
IIFAAEA	Sowbugs		
IKAAAAA	Spiders		
IMPBACA	Silverfish		
IMAAAFA	Stored product insects (exposed) (including angoumois grain moth, cadelle, confused flour beetle, Indianmeal moth, lesser grain borer, mealworms, Mediterranean flour moth, rice weevil and sawtoothed grain beetle)		

EPA Compendium of Acceptable Uses

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF
D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/77000JB /77000JC /71000JB /71000JC	Commercial, Institutional, and Industrial Areas (Indoor, Edible)		Patients should be removed from hospital rooms prior to treatment. Ventilate for 2 hours after treatment. Do not return patients to room until after ventilation. Formulated with one or a combination of: MGK 264 and piperonyl butoxide.
ISASAAA	Ants	[MAI] 1:7 dilution [1 gal/1,000 sq.ft] (2.973% EC) or 1:1.5 dilution [1 gal/1,000 sq.ft] (0.928% SC/L) or 1:2.5 dilution [1 gal/1,000 sq.ft] (1.394% SC/L) or 1 gal 0.163-0.372% RTU/ 1,000 sq.ft (0.163-0.372% RTU) or -- (0.116-0.197% PrL)	Indoor treatment. Apply as a contact and surface spray with a sprayer that will emit coarse wet droplets. For ants, centipedes, cockroaches, crickets, millipedes, psocids, silverfish, and sowbugs, force spray into cracks and crevices in walls and floors, areas at base of machinery, hidden surfaces under sinks, behind cabinets, stoves and refrigerators, around pipes and openings, along baseboards and other pest harbourages. For ants, spray trails and all points of entry into building such as doors and window sills. Spray ant nests directly with a soaking application. Repeat as needed. For bed bug, spray mattresses thoroughly, especially around seams and tufts. Spray bedstand, baseboards, floor boards, and wall cracks and crevices. Allow spray to dry before contact. Repeat frequently. For carpet beetles, directly spray as many pests as possible. Spray both interior and exterior of upholstered furniture. Both top and undersides of rugs and carpets should be sprayed thoroughly. For exposed form of confused flour beetle, lesser grain borer, rice weevil and sawtoothed grain beetle, find and destroy infested packaged goods and remove all other items from pantry. Spray shelves and place clean paper on the shelves
IQAFACA	Bed bug		
INATAFA	Carpet beetle		
IJBAAAA	Centipedes		
IVAAABA	Cockroaches		
INBUATA	Confused flour beetle		
IVAHAAA	Crickets		
IMNAAAA	Fleas		
INAEAEA	Lesser grain borer		
IJCAAAA	Millipedes		
IMMAAAA	Psocids		
INASDRA	Rice weevil		
INARAGA	Sawtoothed grain beetle		
IMPBACA	Silverfish		
IIFAAEA	Sowbugs		

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

Commercial, Institutional, and Industrial Areas (Indoor, Edible) (continued)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
			and return packages after shelves have dried. Repeat as needed. For fleas, remove and destroy animals' bedding and spray sleeping quarters. Direct spray into cracks and crevices. Allow spray to dry and replace clean bedding. Repeat as needed.
ISASAAA	Ants	[MAI] 1:7 dilution [0.5-1 fl.oz/1,000 cu.ft] (2.973% EC) or 1:1.5 dilution [0.5-1 fl.oz/1,000 cu.ft] or undiluted [0.5 fl.oz/1,000 cu.ft] (0.928% SC/L) or 1:2.5 dilution [0.5-1 fl.oz/1,000 cu.ft] or undiluted [0.5 fl.oz/1,000 cu.ft] (1.394% SC/L) or	Indoor space spray treatment. Apply dilutions with mechanical or compressed air sprayer or with fogger that emits droplets of small mass media. Apply undiluted soluble concentrate formulations with a cold fog generator. Close room and shut off all air conditioning and ventilating equipment. Direct spray upwards towards upper corners of room and ceiling. For the 0.326 percent liquid-ready to use formulation apply with atomizing equipment capable of producing spray particles 0 to 50 microns in size. Apply higher rate when controlling crawling pests as well as flying pests. For pressurized liquid formulations, thoroughly spray all parts of the room particularly toward the ceiling while keeping can about 3 feet from walls, fabrics, and furniture. Spray 5 to 10 seconds for average sized room (1,000 cubic feet). For wasps, contact pests directly with spray. Repeat as needed. For angoumois grain moth and Indianmeal moth, pay special attention to areas around stored food product containers, pallets, and darkened areas. Vacate room and leave closed for 15 minutes. For undiluted cold fog, allow room to stay closed for 0.5 hour. Ventilate thoroughly prior to re-
INATAFA	Carpet beetle (including black carpet beetle)		
IJBAAAA	Centipedes		
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
IMDAAAA	Earwigs		
IMPBABA	Firebrat		
IMNAAAA	Fleas		
IOAAAAA	Flies (including gnats, house fly and mosquitoes)		
IJCAAAA	Millipedes		
ITAAABA	Moths (including angoumois grain moth, Indianmeal moth and webbing clothes moth)		
IMMAAAA	Psocids		
IIFAAEA	Sowbugs		
IKAAAAA	Spiders		
IMPBACA	Silverfish		
IMAAAFA	Stored product insects (exposed) (including angoumois grain moth, cadelle, confused flour beetle, Indianmeal moth, lesser grain borer, meal-		

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Commercial, Institutional, and Industrial Areas (Indoor, Edible) (continued)		
	Pest list continued from previous page.		
	worms, Mediterranean flour moth, rice weevil and sawtoothed grain beetle)	-- (0.163-0.372% RTU) (0.116-0.197% PrL) or	entry. Sweep up and destroy fallen pests. Repeat as needed.
ISAAADA	Wasps	1-2 fl.oz 0.326% RTU/ 1,000 cu. ft (0.326% RTU)	
/77000JC	Commercial, Institutional, and Industrial Areas (Indoor, Inedible)		
		Refer to (Domestic Dwellings), Domestic Dwellings, Indoor Excluding Food Handling Areas, and Commercial, Institutional, and Industrial Areas (Indoor, Edible) for use and limitation information.	
/77000DA	Commercial, Institutional, and Industrial Areas (Outdoor)		
ISAAADA	Wasps (including hornets)	[MAI] -- (0.116% PrL)	Outdoor application. Apply after dark when all pests have returned to the nest. Aim valve opening at nest and depress button, soaking the nest with spray. Repeat as needed. Formulated with piperonyl butoxide.

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/72000JB	Eating Establishments (Indoor, Edible)		Food should be removed or covered during treatment. All food processing surfaces should be covered during treatment or thoroughly cleaned prior to using. Formulated with one or a combination of: MGK 264 and piperonyl butoxide.
ISASAAA	Ants	[MAI] -- (0.116-0.186% PrL)	Indoor treatment. Apply as a contact and surface spray. For ants, cockroaches, and crickets, contact as many pests as possible directly with spray. Thoroughly spray all parts of room suspected of harbouring pests. Pay special attention to cracks, hidden surfaces under sinks, behind stoves and refrigerators, and food storage areas. For ants, apply to doors, window frames, ant trails and other areas of entry. For carpet beetles, directly spray as many pests as possible. Spray both interior and exterior of upholstered furniture. Both top and bottom of rugs and carpets should be sprayed thoroughly. For exposed form of confused flour beetle, lesser grain borer, rice weevil and sawtoothed grain beetle, find and destroy infested packaged goods and remove all other items from pantry. Spray shelves and place clean paper on the shelves and return packages after shelves have dried. Repeat as needed.
INATAFA	Carpet beetle		
IVAAABA	Cockroaches		
INBUATA	Confused flour beetle		
IVAHAAA	Crickets		
INAEAEA	Lesser grain borer		
INASDRA	Rice weevil		
INARAGA	Sawtoothed grain beetle		
IOAAAAA	Flies (including gnats and mosquitoes)	[MAI] -- (0.116-0.186% PrL)	Indoor space spray treatment. Thoroughly spray all parts of the room particularly toward the ceiling while keeping can approximately 3 feet from walls, fabrics and furniture. Spray 5 to 10 seconds for average room (1,000 cubic feet). For angoumois grain moth and Indianmeal moth, pay special attention to areas around stored
ITAAABA	Moths (including angoumois grain moth and Indianmeal moth)		
ISAAADA	Wasps		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Eating Establishments (Indoor, Edible) (continued)		
			food product containers, pallets and darkened areas. For wasps, contact pests directly with spray. Sweep up and discard fallen wasps. Repeat as needed.
/72000JC	Eating Establishments (Indoor, Inedible)		
ISASAAA	Ants	[MAI] 1:16 dilution (0.788% EC)	Indoor treatment. Apply as a contact and surface spray. May be diluted with petroleum distillate or water. Spray surface to wetting. For ants, cockroaches, crickets, earwigs, silverfish, sowbugs and spiders, spray into cracks, crevices, around baseboards and other places where pests hide. Apply behind and beneath cabinets, refrigerators, sinks, stoves, and in and around waste containers. Contact directly as many pests as possible. For ants, spray trails and places where pests enter premises. Repeat as needed. For dermestid beetles, spray along baseboards, edges of carpeting, under carpets and rugs, under furniture, in closets, on shelves, and in other places of harbourage. Repeat as needed. Formulated with aromatic petroleum distillate, MGK 264, chlorpyrifos, and piperonyl butoxide.
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
INATAAA	Dermestid beetles		
IMDAAAA	Earwigs		
IMPBACA	Silverfish		
IIFAAEA	Sowbugs		
IKAAAAA	Spiders		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/71000JB	Food Processing, Handling, and Storage Plants/Areas (Indoor, Edible)		Food should be removed or covered during treatment. All food processing surfaces should be covered during treatment or thoroughly cleaned prior to using.
/71000JC	Food Processing, Handling, and Storage Plants/Areas (Indoor, Inedible)		
ITAMASA	Angoumois grain moth	[MAI] 1 fl.oz 0.326% RTU/ 1,000 cu.ft (0.326% RTU)	Indoor space spray treatment. Close room or warehouse and shut off all ventilating systems. Apply with equipment capable of delivering a very fine spray. This will control adult and accessible forms of pests of stored foods (stores in multiwall paper bags or in cloth bags in warehouse storage rooms and similar locations). Do not remain in treated areas. Ventilate the area after treatment. Repeat as needed. Formulated with MGK 264 and piperonyl butoxide.
INBVACA	Cadelle		
INBUATA	Confused flour beetle		
ITBMCHA	Indianmeal moth		
ITBMAIA	Mediterranean flour moth		
INASDRA	Rice weevil		
INARAGA	Sawtoothed grain beetle		
INBUAPA	Yellow mealworm		
ISASAAA	Ants	[MAI] 1:16 dilution (0.788% EC) or -- (0.036% RTU)	Indoor treatment. The emulsifiable concentrate formulation may be diluted with petroleum distillate or water. Applications of these formulations in the food areas of food handling establishments other than as a crack and crevice and spot treatment are not permitted. As a crack and crevice treatment, apply in small amounts directly into cracks and crevices using equipment capable of delivering a pin stream. Apply in points between different elements of construction, between equipment and floors, openings leading to voids and hollow spaces in walls, equipment legs and bases where pests hide. As a spot treatment, spray surface to wetting, do not use as a space spray. For ants, cockroaches, crickets, earwigs, silverfish, sowbugs and spiders, spray into cracks, crevices, around baseboards and other places where pests hide. Apply behind and be-
IVAAABA	Cockroaches		
IVAHAAA	Crickets		
INATAAA	Dermestid beetles		
IMDAAAA	Earwigs		
IMPBACA	Silverfish		
IIFAAEA	Sowbugs		
IKAAAAA	Spiders		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Food Processing, Handling, and Storage Plants/Areas (Indoor, Edible) cluster (continued)		
			neath cabinets, refrigerators, sinks, stoves, and in and around waste containers. Contact directly as many pests as possible. For ants, spray trails and places where pests enter premises. Repeat as needed. For dermestid beetles, spray along baseboards, edges of carpeting, under carpets and rugs, under furniture, in closets, on shelves, and in other places of harbourage. Repeat as needed. Formulated with MGK 264, chlorpyrifos, and piperonyl butoxide.
IVAAABA INBUATA INBJACA ITBMCHA INARAGA	Cockroaches Confused flour beetle Driedfruit beetle Indianmeal moth Sawtoothed grain beetle	[MAI] 1 gal 0.326% RTU/50,000 cu.ft (0.326% RTU)	Indoor space spray treatment. Close room or warehouse and shut off all ventilating systems. Dispense as a fine mist in the area above trays or shelves of dried fruit. Apply with equipment capable of delivering a very fine mist. Do not apply to fruit directly. If overhead sprays are used, be sure that the spray is discharged from a position of at least 6 feet above the top trays of fruit. Repeat as needed in any given month. More than 10 applications may also be made if diluted with more petroleum distillate. Do not remain in treated area. Ventilate area after treatment. Effective only against exposed stages of pests. Formulated with MGK 264 and piperonyl butoxide.

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Food Processing, Handling, and Storage Plants/Areas (Indoor, Edible) cluster (continued)		
IMAAAFA	Stored product insects (exposed) (including cadelle, cigarette beetle, confused flour beetle, drugstore beetle, granary weevil, meal moth (adults and larvae), red flour beetle, rice weevil, sawtoothed grain beetle)	[MAI] 1 gal 0.326% RTU/1,000 sq.ft (0.326% RTU)	Indoor treatment. Apply as a coarse, wet spray to all areas infested by pests. Pay particular attention to cracks and crevices in floors, walls and ceilings. Spray thoroughly around and into floor drains, conveyors and other areas where pests may be found. Do not apply to surfaces that may come in contact with food. Formulated with MGK 264 and piperonyl butoxide.
			Refer to Commercial, Institutional, and Industrial Areas (Indoor, Edible) for additional information.
/730020A	Supermarkets		
ISASAAA	Ants	[MAI] -- (0.116% PrL)	Indoor treatment. Apply as a contact and surface spray. For ants, cockroaches, and crickets, thoroughly spray all parts of rooms suspected of harbouring pests. Pay special attention to cracks, hidden surfaces under sinks, behind stoves and refrigerators, and food storage areas. Contact as many pests as possible directly with spray. For ants, apply to doors, window frames, ant trails and other areas of entry. Repeat as needed. For carpet beetles, directly spray as many pests as possible. Spray both interior and exterior of upholstered furniture. Both top and undersides of rugs and carpets should be sprayed thoroughly. For exposed form of confused flour beetle, lesser grain borer, rice weevil and sawtoothed grain
INATAFA	Carpet beetle		
IVAAABA	Cockroaches		
INBUATA	Confused flour beetle		
IVAHAAA	Crickets		
INAEAEA	Lesser grain borer		
INASDRA	Rice weevil		
INARAGA	Sawtoothed grain beetle		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Supermarkets (continued)		
			beetle, find and destroy infested packaged goods and remove all other items from pantry. Spray shelves and place clean paper on the shelves and return packages after shelves have dried. Repeat as needed. Formulated with one or a combination of: MGK 264 and piperonyl butoxide.
IOAAAAA ITAAABA ISAAADA	Flies (including gnats and mosquitoes) Moths Wasps	[MAI] -- (0.116% PrL)	Indoor space spray treatment. Thoroughly spray all parts of the room particularly toward the ceiling while keeping applicator approximately 3 feet from walls, furniture, and fabrics. Spray 5 to 10 seconds for average room (1,000 cubic feet). For wasps, contact pests directly with spray. Sweep up and discard fallen wasps. Repeat as needed. Formulated with piperonyl butoxide.
	AERIAL, MOTHPROOFING AND TANK MIX APPLICATIONS		
9009000 AAAAAAA	Mothproofing		
	--	Refer to INDOOR (Domestic Dwellings) Domestic Dwellings Contents	

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

Listing of Registered Pesticide Products by Formulation

&090.0001 90% technical chemical
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004)
001021-01291 005086-00008

&000.3002 0.3% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004), O-isopropoxyphenyl methylcarbamate (047802), N-octyl bicycloheptene dicarboximide (057001) plus petroleum distillate (063503)
001021-01466

&000.4302 0.434% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); methoxychlor, technical (034001); 2-hydroxyethyl octyl sulfide (046301); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01289

&001.4802 1.486% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101), petroleum distillate (063503) plus xylene (086802)
001021-01434

&002.6202 2.628% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); chlorpyrifos (059101); petroleum distillate (063503); piperonyl butoxide, technical (067501) plus xylene range aromatic solvent (086803)
001021-01458

&003.1802 3.18% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); 2-hydroxyethyl octyl sulfide (046301); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01241

&003.8702 3.87% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01297

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

Listing of Registered Pesticide Products by Formulation (continued)

&004.1702 4.175% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01284

&005.3002 5.3% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01278

&005.5602 5.569% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01293

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01285 001021-01288

&005.8002 5.8% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01238

&006.1502 6.15% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01350

&006.1802 6.187% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01277 001021-01279 001021-01286

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

Listing of Registered Pesticide Products by Formulation (continued)

&007.4202 7.42% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01240

&007.7402 7.74% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01357

&007.8902 7.89% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01243

&008.9102 8.918% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01446

&009.2802 9.28% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01250

&009.2802 9.285% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01488

&010.0002 10% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01251

Listing of Registered Pesticide Products by Formulation (continued)

&011.1402 11.14% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01249

&013.9202 13.92% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01237

&083.5002 83.5% formulation intermediate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004) plus petroleum distillate (063503)
001021-01242

&200.3112 0.319% emulsifiable concentrate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); butoxypolypropylene glycol (011901); pine oil (067002) plus piperonyl butoxide, technical (067501)
000270-00100

&200.7812 0.788% emulsifiable concentrate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); aromatic petroleum distillate (006601); N-octyl bicycloheptene dicarboximide (057001); chlorpyrifos (059101); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01457

&202.9712 2.973% emulsifiable concentrate
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01447

&200.9215 0.928% soluble concentrate/liquid
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01453

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

Listing of Registered Pesticide Products by Formulation (continued)

&201.3915 1.394% soluble concentrate/liquid

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)

001021-01478

&200.0116 0.01197% liquid-ready to use

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)

050415-00070*

*jacket currently unavailable for review, percentage is estimate.

&200.0216 0.0232% liquid-ready to use

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate (057801) plus petroleum distillate (063503)

001193-00083

&200.0216 0.028% liquid-ready to use

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)

001021-01409*

*jacket currently unavailable for review, percentage is estimate.

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)

051033-00082*

*jacket currently unavailable for review, percentage is estimate.

&200.0316 0.036% liquid-ready to use

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004), aromatic petroleum distillate (006601), N-octyl bicycloheptene dicarboximide (057001), chlorpyrifos (059101) plus petroleum distillate (063503)

001021-01435

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

Listing of Registered Pesticide Products by Formulation (continued)

&200.0616 0.0603% liquid-ready to use
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); 0,0-diethyl 0-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate (057801); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001193-00084

&200.1116 0.116% liquid-ready to use
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
033176-00026 033176-00027

&200.1616 0.16% liquid-ready to use
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); butoxypolypropylene glycol (011901); oil of citronella (021901); dipropyl isocinchomeronate (047201) plus piperonyl butoxide, technical (067501)
000270-00099

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); butoxypolypropylene glycol (011901); oil of citronella (021901); isopropyl lanolin (031606); dipropyl isocinchomeronate (047201) plus piperonyl butoxide, technical (067501)
000270-00106

&200.1616 0.163% liquid-ready to use
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000419-00210

&200.3216 0.325% liquid-ready to use
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
006218-00043

&200.3216 0.326% liquid-ready to use
d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000257-00328 006720-00342 035629-00003

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

Listing of Registered Pesticide Products by Formulation (continued)

&200.3716 0.372% liquid-ready to use

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)

000334-00466   000861-00104   001021-01418   003181-00022
010395-00011   038174-00002   046269-00024*

*jacket currently unavailable for review, percentage is estimate.

&202.9716 2.973% liquid-ready to use

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)

000334-00488

&200.0219 0.025% pressurized liquid

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate (057801) plus petroleum distillate (063503)

001193-00072

&200.0219 0.028% pressurized liquid

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)

054282-00032*

*jacket currently unavailable for review, percentage is estimate.

&200.0419 0.049% pressurized liquid

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)

054282-00034*

*jacket currently unavailable for review, percentage is estimate.

&200.0619 0.0603% pressurized liquid

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate (057801); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)

001193-00076

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

Listing of Registered Pesticide Products by Formulation (continued)

&200.1119 0.116% pressurized liquid

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000706-00085 001021-01408 001021-01412 011598-00025

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); 2-hydroxyethyl octyl sulfide (046301); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000239-02551

&200.1619 0.163% pressurized liquid

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
001021-01413

&200.1819 0.186% pressurized liquid

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001) plus piperonyl butoxide, technical (067501)
007405-00058

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
000134-00064 000334-00464 000419-00224 000498-00112
001021-01421 001769-00299 001769-00304 003181-00020
009422-00008 010807-00071 011525-00051 011598-00026
011715-00093 033176-00001

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); N-octyl bicycloheptene dicarboximide (057001); piperonyl butoxide, technical (067501) plus isoparaffinic hydrocarbons (505200)
001021-01414

&200.1919 0.197% pressurized liquid

d-trans-chrysanthemum monocarboxylic acid ester of d-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one (004004); petroleum distillate (063503) plus piperonyl butoxide, technical (067501)
033176-00002

D-TRANS CHRYSANTHEMUM MONOCARBOXYLIC ACID ESTER OF D-2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE

Appendix A-1

Listing of Active Ingredient(s) Found in Combination with the Report Chemical

Chemical Code	Common Name (source)	EPA Acceptable Common/Chemical Name
006601	aromatic petroleum distillate	--
011901	butoxypolypropylene glycol	--
059101	chlorpyrifos	--
057801	diazinon (ISO)	O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate
047201	dipropyl isocinchomeronate	--
046301	2-hydroxyethyl octyl sulfide	--
505200	isoparaffinic hydrocarbons	--
047802	O-isopropoxyphenyl methylcarbamate	--
031606	isopropyl lanolin	--
034001	methoxychlor	methoxychlor, technical
057001	MGK 264	N-octyl bicycloheptene dicarboximide
021901	oil of citronella	--
063503	petroleum distillate	--
067002	pine oil	--
067501	piperonyl butoxide	piperonyl butoxide, technical
086802	xylene	--
086803	xylene range aromatic solvent	--

-- Use Common Name

APPENDIX IV

BIBLIOGRAPHY APPENDICES

GUIDE TO USE OF THIS BIBLIOGRAPHY

1. CONTENT OF BIBLIOGRAPHY. This bibliography contains citations of all studies considered relevant by EPA in arriving at the positions and conclusions stated elsewhere in the Standard. Primary sources for studies in this bibliography have been the body of data submitted to EPA and its predecessor agencies in support of past regulatory decisions. Selections from other sources, including the published literature in those instances where they have been considered, will be included.

2. UNITS OF ENTRY. The unit of entry in this bibliography is called a "study." In the case of published materials, this corresponds closely to an article. In the case of unpublished materials submitted to the Agency, the Agency has sought to identify documents at a level parallel to the published article from within the typically larger volumes in which they were submitted. The resulting "studies" generally have a distinct title (or at least a single subject), can stand alone for purposes of review, and can be described with a conventional bibliographic citation. The Agency has attempted also to unite basic documents and commentaries upon them, treating them as a single study.

3. IDENTIFICATION OF ENTRIES. The entries in this bibliography are sorted numerically by "Master Record Identifier," or MRID Number. This number is unique to the citation, and should

be used at any time specific reference is required. It is not related to the six-digit "Accession Number" which has been used to identify volumes of submitted studies; see paragraph 4(d)(4) below for a further explanation. In a few cases, entries added to the bibliography late in the review may be preceded by a nine-character temporary identifier. These entries are listed after all MRID entries. This temporary identifier number is also to be used whenever specific reference is needed.

FORM OF ENTRY. In addition to the Master Record Identifier (MRID), each entry consists of a citation containing standard elements followed, in the case of material submitted to EPA, by a description of the earliest known submission. Bibliographic conventions used reflect the standards of the American National Standards Institute (ANSI), expanded to provide for certain special needs.

a. Author. Whenever the Agency could confidently identify one, the Agency has chosen to show a personal author. When no individual was identified, the Agency has shown an identifiable laboratory or testing facility as author. As a last resort, the Agency has shown the first submitter as author.

b. Document Date. When the date appears as four digits with no question marks, the Agency took it directly from the document. When a four-digit date is followed by a question mark, the bibliographer deduced the date from evidence in the document. When the date appears as (19??), the Agency was unable to determine or estimate the date of the document.

c. Title. In some cases, it has been necessary for Agency bibliographers to create or enhance a document title. Any such editorial insertions are contained between square brackets.

d. Trailing Parentheses. For studies submitted to the Agency in the past, the trailing parenetheses include (in addition to any self-explanatory text) the following elements describing the earliest known submission:

   (1) Submission Date. The date of the earliest known submission appears immediately following the word "received."

   (2) Administrative Number. The next element, immediately following the word "under," is the registration number, experimental use permit number, petition number, or other administrative number associated with the earliest known submission.

   (3) Submitter. The third element is the submitter following the phrase "submitted by." When authorship is defaulted to the submitter, this element is omitted.

(4) Volume Identification (Accession Numbers). The final element in the trailing parentheses identifies the EPA Accession Number of the volume in which the original submission of the study appears. The six-digit accession number follows the symbol "CDL," standing for "Company Data Library." This accession number is in turn followed by an alphabetic suffix which shows the relative position of the study within the volume. For example, within accession number 123456, the first study would be 123456-A; the second 123456-B; the 26th, 123456-Z; and the 27th, 123456-AA.

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Allethrin and related Compounds Standards

MRID	CITATION
00027547	Beavers, J.B.; Fink, R.; Brown, R. (1978) Final Report: Eight-Day Dietary LC50--Bobwhite Quail: Project No. 163-102. (Unpublished study received Dec 13, 1979 under 1021-1422; prepared by Wildlife International, Ltd. in cooperation with Washington College, submitted by McLaughlin, Gormley, King Co., Minneapolis, Minn.; CDL:241520-C)
00031930	McLaughlin, Gormley, King Company (19??) Residue Analysis of d-trans Allethrin, MGK-264, and Piperonyl butoxide in Candy, Butter, Potatoes, Lemon Cream Pie, Bread and Meat. Undated method. (Unpublished study received Apr 23, 1980 under 1021-1417; CDL:242342-F)
00035929	Schreiber, A.A.; McClellan, D.B. (1954) Estimation of micro quantities of pyrethroids. Analytical Chemistry 26(3):604-607. (Also in unpublished submission received Oct 14, 1955 under PP0044; submitted by FMC Corp., Philadelphia, Pa.; CDL:092325-G)
00060633	Atkins, E.L., Jr.; Anderson, L.D. (1967) Toxicity of Pesticides and Other Agricultural Chemicals to Honey Bees: Laboratory Studies. ?: Univ. of California, Agricultural Extension Service. (M-16; submitter report no. 22259; also in unpublished submission received Mar 27, 1974 under 4F1485; submitted by Chemagro Corp., Kansas City, Mo.; CDL:092011-N)
00064646	Meinen, V.J.; Carlson, D.J. (19??) Residue Analysis of Sumithrin, Neo-pynamin and Pynamin Forte in Sugar, Butter, Potatoes, Apples, Bread and Meat. Undated method. (Unpublished study received Oct 29, 1980 under 1H5283; submitted by McLaughlin, Gormley, King Co., Minneapolis, Minn.; CDL:243803-I)
00078624	Knickerbocker, M.; Re, T.A. (1979) Teratologic Evaluation of D-trans Allethrin in Sprague-Dawley Rats: Laboratory No. 6059. (Unpublished study received May 17, 1979 under 1021-1060; prepared by Food and Drug Research Laboratories, Inc., submitted by Chevron Chemical Co., Richmond, Calif.; CDL:238638-A)
00088398	Johansen, C.; Eves, J. (1970) Bee Research Investigations, 1970. (Unpublished study received Feb 1, 1973 under unknown admin. no.; prepared by Washington State Univ., submitted by Shell Chemical Co., Washington, D.C.; CDL:222266-D)

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MRID	CITATION
00122492	Wallwork, L.; Clampitt, R.; Malone, J. (1972) Bioallethrin, Rat Oral 90 Day Toxicity Study: Report Series B No. 40-72. (Unpublished study received Sep 22, 1972 under 1021-1217; prepared by Wellcome Foundation Ltd., Eng., submitted by McLaughlin Gormley King Co., Minneapolis, MN; CDL:051098-F)
00123339	Fink, R.; Beavers, J.; Grimes, J.; et al. (1978) Acute Oral LD50: Bobwhite Quail: D-Trans Allethrin, Technical: Project No. 163-106. Final rept. (Unpublished study received Feb 8, 1979 under 1021-1217; prepared by Wildlife International, Ltd., submitted by McLaughlin Gormley King Co., Minneapolis, MN; CDL:238863-A)
00133570	Peyre, M.; Chantot, J.; Penasse, L.; et al. (1979) Detection of a Mutagenic Potency of Bioallethrin: 1) Microbial Assays; 2) Micronucleus Test in Mouse: Ref. RU-BA-79.27.12/A. (Unpublished study received Nov 23, 1983 under 1021-1217; submitted by McLaughlin Gormley King Co., Minneapolis, MN; CDL:252029-A)
00135387	FMC; (1956) Residue Studies of Allethrin in Guernsey Milk and Goat Meat and Fat (Compliation: unplublished study received 1956 under PP 0044-A; CDL:098144)
00151444	Audegonde, L.; Collas, E.; Glomot, R. (1979) Bioallethrin: Acute Oral Toxicity Study in the Rat: Ref. RU-BA-79829/A. Unpublished study prepared by Roussel Uclaf, Div. Argro-veterinaire, Paris, France. 25 p.
00151447	Griggs, L. (1982) 6-month Dietary Toxicity Study in Dogs: Bioallethrine: 406-034: Ref. IRDC-BA-406.034/Al. Unpublished study prepared by International Research and Development Corp. 306 p.
00151449	Glomot, R. (1979) Esbiothrin: Acute Oral Toxicity Study in the Rat: Ref. RU-EBT-79828/A and Ref. 79.828. Unpublished study prepared by Roussel Uclaf. 27 p.
00151451	Kaysen, A.; Sales, A. (1984) RU 27436: Acute Dermal Toxicity in Male and Female Rabbits: Study No. 430 TAL: Ref. CIT/EBT-430-84/A. Unpublished study prepared by Centre International de Toxicologie. 36 p.

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Citations Considered to be Part of the Data Base Supporting
Registrations Under the Allethrin and related Compounds Standards

MRID	CITATION
00151452	Hardy,C.; Jackson, G.; Lewis, D.; et al. (1984) Esbiothrine: RU 27436 Acute Inhalation Toxicity in Rats: 4-hour Exposure: HRC Report No. RSL 640/84470: Ref. RSL-EBT-84470/A. Unpublished study prepared by Huntingdon Research Centre plc. 118p.
00151453	Collas, E. (1984) Esbiothrin: Primary Dermal Irritation Study in the Male Rabbit: Ref. RU-EBT-83.315/A. Unpublished study prepared by Roussel Uclaf. 12 p.
00151454	Collas, E. (1984) Esbiothrin: Primary Eye Irritation Study in the Male Rabbit: Ref. RU-EBT-83.316/A. Unpublished study prepared by Roussel Uclaf. 16 p.
00151455	Chantot, J. (1984) Esbiothrin: Detection of a Mutagenic Potency with a Bacterial Test (Ames Test): RU-EBT-84.04.04/A. Unpublished study prepared by Roussel Uclaf. 14 p.
00151457	Richold, M.; Edgar, D.; Ransome, S.; et al. (1984) An Assessment of the Mutagenic Potential of Esbiothrine Using an in vitro Mammalian Cell Test System: HRC Report No. RSL 642/84422: Ref. RSL-EBT-642/84422/A. Unpublished study prepared by Huntingdon Research Centre plc. 37 p.
00151460	Glomot, R. (1979) Esbiol: Acute Oral Toxicity Study in Rat: Ref. RU-SB-79830/A and Ref. 79830. Unpublished study prepared by Roussel Uclaf. 30 p.
00151466	Sakamoto, Y.; Matsumoto, K.; Ogami, H. (1975) Irritant Effect of Esbiol and Allethrin on the Eye Mucosa of the Rabbit: Ref. OU-SB-75.03.22/A. Unpublished study prepared Osaka University and and Japan Mosquito Coil Co.
00157916	Sato, H.; Arai, M.; Hagiwara, A (1985) Chronic Toxicity and Oncogenicity Study of Pynamin Forte in Rats. Unpublished study prepared by Daiyu-Kai Institute of Medical Science. 3065 p.
00160000	Hudson, R.; Tucker, R.; Haegele, M. (1984) Handbook of toxicity of pesticides to wildlife: Second edition. US Fish and Wildlife Service: Resource Publication 153. 91 p.

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MRID	CITATION
00162751	Stevenson, J. (1968) Laboratory studies on the acute contact and oral toxicities of insecticides to honeybees. Ann. appl. Biol. 61:467-472.
40094602	Johnson, W.; Finley, M. (1980) Handbook of Acute Toxicity of Chemicals to Fish and Aquatic Invertebrates: Resource Publication 137. US Fish and Wildlife Service, Washington, D.C. 106 p.

V. FORMS APPENDICES

OMB Approval No. 2070-0057
Expires 11/30/89

FIFRA SECTION 3(C)(2)(B) SUMMARY SHEET	EPA REGISTRATION NO.
PRODUCT NAME	
APPLICANT'S NAME	DATE GUIDANCE DOCUMENT ISSUED

With respect to the requirement to submit "generic" data imposed by the FIFRA section 3(C)(2)(B) notice contained in the referenced Guidance Document, I am responding in the following manner:

☐ 1. I will submit data in a timely manner to satisfy the following requirements. If the test procedures I will use deviate from (or are not specified in) the Registration Guidelines or the Protocols contained in the Reports of Expert Groups to the Chemicals Group, OECD Chemicals Testing Programme, I enclose the protocols that I will use:

☐ 2. I have entered into an agreement with one or more other registrants under FIFRA section 3(C)(2)(B)(ii) to satisfy the following data requirements. The tests, and any required protocols, will be submitted to EPA by:

NAME OF OTHER REGISTRANT

☐ 3. I enclose a completed "Certification of Attempt to Enter Into an Agreement with Other Registrants for Development of Data" with respect to the following data requirements:

☐ 4. I request that you amend my registration by deleting the following uses (this option is not available to applicants for new products):

☐ 5. I request voluntary cancellation of the registration of this product. (This option is not available to applicants for new products.)

REGISTRANT'S AUTHORIZED REPRESENTATIVE	SIGNATURE	DATE

EPA Form 8580-1

OMB Approval No. 2070-0057
Expires 11/30/89

CERTIFICATION OF ATTEMPT TO ENTER INTO AN AGREEMENT WITH OTHER REGISTRANTS FOR DEVELOPMENT OF DATA

(To qualify, certify __ALL__ four items)

1. I am duly authorized to represent the following firm(s) who are subject to the requirements of a Notice under FIFRA Section 3(c)(2)(B) contained in a Guidance Document to submit data concerning the active ingredient:

GUIDANCE DOCUMENT DATE

ACTIVE INGREDIENT

NAME OF FIRM	EPA COMPANY NUMBER

(This firm or group of firms is referred to below as "my firm".)

2. My firm is willing to develop and submit the data as required by that Notice, if necessary. However, my firm would prefer to enter into an agreement with one or more other registrants to develop jointly, or to share in the cost of developing, the following required items or data:

3. My firm has offered in writing to enter into such an agreement. Copies of the offers are attached. That offer was irrevocable and included an offer to be bound by an arbitration decision under FIFRA Section 3(c)(2)(B)(iii) if final agreement on all terms could not be reached otherwise. This offer was made to the following firm(s) on the following date(s):

NAME OF FIRM	DATE OF OFFER

However, none of those firm(s) accepted my offer.

4. My firm requests that EPA not suspend the registration(s) of my firm's product(s), if any of the firms named in paragraph (3) above have agreed to submit the data listed in paragraph (2) above in accordance with the Notice. I understand EPA will promptly inform me whether my firm must submit data to avoid suspension of its registration(s) under FIFRA Section 3(c)(2)(B). (This statement does not apply to applicants for new products.) I give EPA permission to disclose this statement upon request.

TYPED NAME	SIGNATURE	DATE

EPA Form 8580-6

OMB Approval No.
2070-0057
Expires 11/30/89

PRODUCT SPECIFIC DATA REPORT

EPA Reg. No. ______________________ Date ______________________

Guidance Document for ______________________

Registration Guideline No.	Name of Test	Test not required for my product listed above (check below)	I am complying with data requirements by: Citing MRID Number or EPA Accession Number	I am complying with data requirements by: Submitting Data (Attached)	(For EPA Use Only) Accession Numbers Assigned
§158.120 PRODUCT CHEMISTRY					
61-1	Identity of ingredients				
61-2	Statement of composition				
61-3	Discussion of formation of ingredients				
62-1	Preliminary analysis				
62-2	Certification of limits				
62-3	Analytical methods for enforcement limits				
63-2	Color				
63-3	Physical state				
63-4	Odor				
63-5	Melting point				
63-6	Boiling point				
63-7	Density, bulk-density, or specific gravity				
63-8	Solubility				
63-9	Vapor pressure				
63-10	Dissociation constant				
63-11	Octanol/water partition coefficient				
63-12	pH				

EPA Form 8580-4

Registration Guideline No.	Name of Test	Test not required for my product listed above (check below)	I am complying with data requirements by Citing MRID Number or EPA Accession Number	Submitting Data (Attached)	(For EPA Use Only) Accession Numbers Assigned
63-13	Stability				
63-14	Oxidizing/reducing reaction				
63-15	Flammability				
63-16	Explodability				
63-17	Storage stability				
63-18	Viscosity				
63-19	Miscibility				
63-20	Corrosion characteristics				
63-21	Dielectric breakdown voltage				
§158.135 TOXICOLOGY					
81-1	Acute oral toxicity, rat				
81-2	Acute dermal toxicity, rabbit				
81-3	Acute inhalation, toxicity, rat				
81-4	Primary eye irritation, rabbit				
81-5	Primary dermal irritation				
81-6	Dermal sensitization				

OMB Approval No. 2070-0057
Expiration Date 11/30/89

GENERIC DATA EXEMPTION STATEMENT

EPA Product Registration Number: ________________

Registrant's Name and Address: ______________________________

____

As an authorized representative of the registrant of the product identified above, I certify that:

(1) I have read and am familiar with the terms of the Notice from EPA dated __________ concerning a requirement for submission of "generic" data on the active ingredient ______________ named under FIFRA Section 3(c)(2)(B).

(2) My firm requests that EPA not suspend the registration of our product, despite our lack of intent to submit the generic data in question, on the grounds that the product contains the active ingredient solely as the result of the incorporation into the product of another product which contains that active ingredient, which is registered under FIFRA Section 3, and which is purchased by us from another producer.

(3) An accurate Confidental Statement of Formula(CSF) for the above-identified product is attached to this statement. That formula statement indicates, by company name, registration number, and product name, the source of the subject active ingredient in my firm's product, or

The CSF dated __________ on file with EPA is complete, current and accurate and contains the information requested on the current CSF Form No. 8570-4. The registered source(s) of the above named active ingredient in my product(s) is/are ________________ and their registration number(s) is/are ______________.

My firm will apply for an amendment to the registration prior to changing the source of the active ingredient in our product.

(4) I understand, and agree on behalf of my firm, that if at any time any portion of this Statement is no longer true, or if my firm fails to comply with the undertakings made in this Statement, my firm's product's registration may be suspended under FIFRA Section 3(c)(2)(B).

(5) I further understand that if my firm is granted a generic data exemption for the product, my firm relies on the efforts of other persons to provide the Agency with the required generic data. If the registrant(s) who have committed to generate and submit the required data fail to take appropriate steps to meet requirements or are no longer in compliance with this Notice's data requirements, the Agency will consider that both they and my firm are not in compliance and will normally initiate proceedings to suspend the registrations of my firm's product(s) and their product(s), unless my firm commits to submit and submits the required data in the specified time frame. I understand that, in such cases, the Agency generally will not grant a time extension for submitting the data.

Registrant's authorized representative: ______________________________
(Signature)

Dated: ________________ ______________________________
(Typed)

EPA Form 8570-27

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